

E. S. D.

Oficio No.: 4097

patentabilidad

de conformidad con el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina.

1. MODIFICACIONES A UNA SOLICITUD EN TRÁMITE

1.1 Reivindicaciones relativas a un uso

reivindicaciones en cuestión han sido eliminadas del capítulo reivindicatorio.

1.2 Modificaciones al capítulo reivindicatorio

que se han realizado las siguientes modificaciones:

- La reivindicación 1 ha sido modificada con el fin de limitar su alcance respecto del ingrediente activo pesticida. Esta modificación cuenta con pleno sustento en la memoria descriptiva en las páginas 25, línea 19 y páginas 11 a 17. Asimismo, la palabra “*aproximadamente*” ha sido eliminada.

- La reivindicación 2 ha sido modificada con el fin de incluir la definición de la sigla “FIC” (índice de concentración inhibitoria fraccional).
- Las nuevas reivindicaciones 3 y 4 se han incluido para reclamar un valor de índice FIC específico. Esta modificación cuenta con pleno sustento en la memoria descriptiva en la página 7; líneas 5 a 21.
- La reivindicación 7 (nueva reivindicación 9) ha sido modificada con el fin de limitar su alcance respecto de los inhibidores de la respiración, inhibidores de la biosíntesis de esteroides (fungicidas SBI), inhibidores de la síntesis de ácido nucleico, inhibidores de la síntesis de aminoácidos y proteínas, inhibidores de la transducción de señales, inhibidores de síntesis de lípidos y membranas, inhibidores con acción multi sitio, modo de acción desconocido e insecticidas.
- La reivindicación 8 (nueva reivindicación 10) ha sido modificada con el fin proporcionar claridad eliminando la palabra “aproximadamente”.
- La reivindicación 9 (nueva reivindicación 11) ha sido modificada con el fin de limitar su alcance respecto del aceite pesticida natural.
- La reivindicación 18 (nueva reivindicación 14) se ha modificado para limitar su alcance eliminando una de sus características técnicas esenciales.
- Las reivindicaciones 10 – 15 han sido eliminadas del capítulo reivindicatorio.
- La numeración y dependencias del nuevo capítulo reivindicatorio han sido modificadas en virtud de las modificaciones mencionadas.

Están modificaciones cumplen con lo establecido en el artículo 30 de la Decisión 486 de 2000 de la Comisión de la Comunidad Andina.

2. ARGUMENTOS A FAVOR DE LA CLARIDAD DE LAS REIVINDICACIONES

2.1. En relación con la objeción sobre los términos “menos” y “menos de” mencionados en las reivindicaciones 2, 3, 5, 7, 8, 9, 10, 11, 12, 13, 15, se aclara a ese Despacho que la persona

medianamente versada en la materia estaría en capacidad de entender que dichos términos no son relativos toda vez que indican un rango específico ya que explícitamente se reivindica el valor más alto. Adicionalmente, restringir la invención como sugiere el Examinador es una indebida limitación de alcance de la materia reclamada. Por lo tanto, el lenguaje del nuevo capítulo reivindicatorio es claro y se debe dar por superada dicha objeción.

2.2. Con respecto al termino “*pequeño*” de la reivindicación 7, es oportuno aclarar a la Oficina que este no es relativo toda vez que, este término se utiliza en el contexto de “*ARN interferente pequeño (ARNip)*” o “*ARNs*”, que es una forma específica de ARN conocida por los expertos en la técnica. Por lo tanto, el término en cuestión de ninguna manera se utiliza en un sentido relativo en el contexto de la invención, por tanto, se solicita dar por superada dicha objeción.

2.3. En relación con la objeción hecha sobre el término “*aproximadamente*” de las reivindicaciones 1, 8 y 11, se aclara al Despacho que el termino en cuestión ha sido eliminado del capítulo reivindicatorio.

2.4. En respuesta a la objeción hecha sobre las reivindicaciones 2, 7 y 12, asociada a los términos “*preferiblemente*” y “*tales como*”, se explica a la Oficina que el capítulo reivindicatorio ha sido modificado incluyendo las características técnicas esenciales preferidas a nuevas reivindicaciones dependientes. La reivindicación 7 (nueva reivindicación 9) ha sido modificada para eliminar el término “*tales como*”.

2.5. El Examinador afirma que la reivindicación 2 carece de claridad porque menciona la sigla “*FIC*” indefinida que hace referencia. En respuesta a esta objeción se le informa a la Oficina que la reivindicación 2 ha sido modificada para definir el índice FIC.

2.6. En respuesta a la objeción hecha a las reivindicaciones 3 y 4, es oportuno aclarar que la reivindicación 3 (nueva reivindicación 5) reclama un extracto vegetal natural o a un extracto animal natural, mientras que la reivindicación 4 (nueva reivindicación 6) se refiere a un extracto de aceite vegetal o a un extracto de aceite animal. Por lo tanto, la reivindicación 4 (nueva reivindicación 6) contiene una definición adicional de la característica del ácido alifático saturado o insaturado C₆-C₁₀ pertinente con respecto a la reivindicación 3. En consecuencia, se debe dar por superada esta objeción.

2.7. El Examinador afirma que la reivindicación 5 comprende la frase *“exhibe una inhibición sinérgica del crecimiento de al menos un organismo de plaga diana”*, según el Examinador refiere un resultado alcanzar. En este sentido, se aclara a ese Despacho que como es bien sabido por la persona versada en la técnica, la reivindicación 5 es dependiente de la reivindicación independiente 1, que está debidamente definida por sus características técnicas esencial, por lo tanto, se debe dar por superada la objeción en cuestión.

2.8. En relación con la supuesta falta de claridad de las reivindicaciones 17 a 20, se aclara a la Oficina que las reivindicaciones mencionadas corresponden a reivindicaciones dependientes de la reivindicación, la cual se encuentra debidamente definida y caracterizada por sus características técnicas esenciales y, en consecuencia, se debe dar por superada la objeción en cuestión.

2.9. En relación con la objeción hecha sobre el capítulo reivindicatorio asociada a la supuesta falta de concisión, es oportuno aclarar que en virtud de las modificaciones mencionadas en el numeral anterior, el nuevo capítulo reivindicatorio limita considerablemente su alcance respecto de los ingredientes activos pesticidas en una lista específicamente enumerada. En relación con la objeción hecha sobre la expresión asociada a los ácidos alifáticos saturados o insaturados, se aclara que dichos compuestos se han limitado a una generalización razonable de un ácido alifático saturado o insaturado de cadena C₆-C₁₀ o una sal de este normalmente aceptada en el campo técnico de la agricultura. Para cada uno de los ácidos alifáticos se proporciona el soporte correspondiente tanto en los ejemplos descritos en la memoria descriptiva y en los datos de prueba adjuntos al presente memorial. En consecuencia, ahora se reclama una cantidad muy limitada de ácidos alifáticos que contienen entre 6 y 10 átomos de carbono, lo que corresponde a una definición razonable considerando los ejemplos presentados en la descripción de la presente solicitud y los datos experimentales adicionalmente que demuestran el efecto sinérgico pesticida de la composición reclamada.

2.10. Finalmente, es oportuno señalar que la Guía para examen de solicitudes de patente de invención y modelo de utilidad establece que *“La invención puede estar suficientemente descrita si se aporta: Un sólo ejemplo o un número razonable de ejemplos, modos de realización alternativos o variaciones que habilitan a la persona del oficio normalmente versada en la materia para que, junto con sus conocimientos generales, pueda poner en práctica la invención en toda*

el área reivindicada (...)". Por lo tanto, considerando que el experto en la materia puede reproducir la invención, utilizando otros un ácido alifático saturado o insaturado C₆-C₁₀ o una sal del mismo, basándose en los ejemplos de la memoria descriptiva, sin necesitar más información ni realizar un esfuerzo inventivo adicional, debe reconocerse que la memoria descriptiva divulga de manera suficiente la invención reivindicada. En consecuencia, la objeción elevada por esa Oficina debe darse por superada.

3. ESTADO DE LA TÉCNICA

El Examinador ha determinado como estado de la técnica más cercano a la invención los documentos titulados "*In vitro susceptibility of Brachyspira hyodysenteriae to organic acids and essential oil components*" identificado de ahora en adelante como D1 y "*Liquid pyraclostrobin-containing crop protection formulations*" identificado de ahora en adelante como D2.

4. ARGUMENTOS A FAVOR DE LA NOVEDAD Y NIVEL INVENTIVO DE LA SOLICITUD

4.1. En virtud de las modificaciones hechas sobre el capítulo reivindicatorio, se ha limitado el alcance de la nueva reivindicación independiente 1 al restringir las características técnicas esenciales de la composición pesticida sinérgica, especificando cada uno de sus componentes.

4.2. En este sentido, se aclara al Despacho que tal y como se reclama actualmente la composición en estudio, no es conocida en el estado de la técnica, toda vez que la composición actualmente reivindicada no comprende timol así como tampoco ácido cáprico solos ni en combinación. Por lo tanto, la composición reclamada es novedosa a la luz de las enseñanzas del documento D1.

4.3. Así mismo, el señor Examinador ha establecido que la reivindicación dependiente 7 (nueva reivindicación 9) no es inventiva a la luz de la combinación de las enseñanzas de los documentos D1 y D2; sin embargo; el Solicitante ha limitado el alcance de la materia reclamada en consecuencia la composición pesticida sinérgica, es inventiva como se manifiesta en los argumentos a continuación.

4.4. En la Acción Oficial, el señor Examinador ha caracterizado el problema técnico objetivo "*¿Cómo modificar la combinación conocida en D1 para proporcionar una composición*

alternativa?”, así mismo sugiere que el documento D2 revela un pesticida que ejerce una actividad sinérgica y que comprende piraclostrobina y al menos un solvente orgánico. En este sentido, el Examinador concluye que sería obvio seleccionar e incluir la piraclostrobina de D2 en la combinación de D1 para lograr el objeto de la reivindicación 7. Además, considera que la reivindicación 21 no menciona ninguna característica que aporte altura inventiva a la materia reclamada.

4.5. Como se mencionó anteriormente, el capítulo reivindicatorio ha sido modificado con el fin de limitar el alcance de la materia reclamada en términos de cada uno de los componentes presente en esta. En tal sentido, los ingredientes activos pesticidas se han restringido a aquellos para los que se ha demostrado un efecto sinérgico ejemplificados en la memoria descriptiva o en los nuevos datos experimentales adjuntos a este memorial; asimismo, como se expone en la página 2, líneas 26 a 36 del capítulo descriptivo, *“de un examen sistemático de alrededor de 120,000 combinaciones de medicamentos de dos componentes basadas en los medicamentos de la lista de referencia encontró menos del 10% de pares sinérgicos”*. En conexión con lo anterior, es muy sencillo determinar que la persona medianamente versada en la materia no esperaría que la sustitución del ingrediente activo pesticida piraclostrobina de D2 por el timol enseñado por D1 resultaría necesariamente en una combinación sinérgica.

4.6. En conexión con los datos experimentales adjuntos, es importante resaltar que estos demuestran un efecto sinérgico al combinar los principios activos pesticidas y los ácidos alifáticos entre 6 y 10 átomos de carbono tal y como se reclaman actualmente, estas combinaciones demostraron que la composición objeto de estudio resuelve el problema técnico planteado asociado al control de plagas con composiciones que requieran el uso mínimo de agentes pesticidas o ingredientes activos pesticidas.

4.7. A la luz de lo anterior, el Solicitante afirma respetuosamente que la materia reclamada en el nuevo capítulo reivindicatorio es novedosa e inventiva frente a la combinación de las enseñanzas de los documentos D1 y D2, así mismo, las reivindicaciones dependientes 2 a 17 cumplen con todos y cada uno de los requisitos de patentabilidad.

4.8. Finalmente, se solicita cordialmente a ese Despacho reconocer los méritos de patentabilidad de la solicitud bajo estudio.

5. PETICIÓN

Teniendo en cuenta que se ha dado respuesta a todas las observaciones realizadas por su Despacho, demostrando que el nuevo pliego reivindicatorio cumple con los requisitos de patentabilidad, amablemente se solicita proceder al otorgamiento de la solicitud de patente.

6. ANEXOS

- Nuevo pliego reivindicatorio conformado por 17 reivindicaciones;
- Pago por concepto de modificación del capítulo reivindicatorio;
- Datos experimentales que demuestran el efecto sinérgico de la composición pesticida reclamada.

7. NOTIFICACIONES

Recibiré notificaciones en la secretaría de su Despacho; en mis oficinas de abogado ubicadas en la Calle 67 No. 7 – 35, oficina 1204, teléfono 3192900, fax 3210295, Bogotá D.C., Colombia, o; al correo electrónico patentes@gomezpinzon.com.

Atentamente,

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PDB

Resumen de los Ejemplos y datos experimentales de apoyo -Ácidos alifáticos saturados e insaturados C6-C10 con todos los productos activos

Solicitud	Tabla	Ácido alifático	Producto Activo	Género
PCT/IB2018/057597	1	C6 Insaturado	Piraclostrobina	Estrobilurinas
	2	C6 Insaturado	Fludioxonil	Fenilpirrol/ Activo de Clase 12
	3	C8 C10 Insaturado	Fludioxonil	Fenilpirrol/ Activo de Clase 12
	4	C8 C10 Insaturado	Aceite de tomillo	Aceites pesticidas naturales
	5	C8 insaturado	Extracto de limonoide de aceite de neem	Aceites pesticidas naturales
	6	C8 insaturado	Fortune Aza Tech	Aceites pesticidas naturales
	7	C6 C8 C10 C12 saturado	Fludioxonil	Fenilpirrol/ Activo de Clase 12
	8	C6 C8 C10 C12 saturado	Fludioxonil	Fenilpirrol/ Activo de Clase 12
	9	C8 C10 saturado	Extracto de limonoide de aceite de neem o Fortune Aza Tech	Aceites pesticidas naturales
	10	C6 C7 C8 C9 C10 C12 saturado	Piraclostrobina	Estrobilurinas
	11	C6 C7 C8 C9 C12 saturado	Azoxistrobina	Estrobilurinas
	12	C7 C8 C9 C12 saturado	Clorotalonil	Organoclorado
	13	C12 saturado	Fludioxonil Ciprodinilo	Activo del grupo 12 Activo del grupo 9
	14	C7 C8 saturado	Difenoconazol	Azol
	15	C7 C8 C9 C10 C12 saturado	Tebuconazol	Azol
	16	C6 C7 C8 C9 C10 C12 saturado	Piraclostrobina	Estrobilurinas
	17	C6 C7 C8 C9 C10 C12 saturado	Azoxistrobina	Estrobilurinas
	18	C10 C12 saturado	Propiconazol	Azol
	19	C6 C7 C8 C9 C10 C12 saturado	Epoxiconazol Tebuconazol	Azol
	20	C9 C10 C12 saturado	Difenoconazol	Azol
	21	C6 C7 C8 C9 C10	Piraclostrobina	Estrobilurina

Ácidos Alifáticos C6-C10 Saturados e Insaturados con todos los Activos

		C12 saturado		
	22	C6 C7 C8 C9 C10 saturado	Azoxistrobina	Estrobilurina
	23	C10 saturado	Piraclostrobina Ciprodinilo Metalaxilo Azoxistrobina Epoxiconazol Tebuconazol	
	24	C6 C7 C8 C9 C10 C12 saturado	Difenoconazol Propiconazol	Azol
	25	C6 C7 C8 C9 C10 C12 saturado	Tebuconazol	Azol
	26	C8 C10 C12 saturado	Ciprodinilo Metalaxilo	
	27	C6 C7 C8 C10 insaturado	Piraclostrobina	Estrobilurina
	28	C6 C7 C9 C10	Azoxistrobina	Estrobilurina
	29	C7 C10 insaturado	Fludioxonil Ciprodinilo	
	30	C6 C7 C8 C9 C10 insaturado	Difenoconazol	Azol
	31	C6 C7 C8 C10 insaturado	Epoxiconazol	Azol
	32	C8 C9 C10 C11 insaturado	Tebuconazol	Azol
	33	C6 C7 C8 C9 C10 C11 C18 insaturado	Piraclostrobina	Estrobilurina
	34	C6 C10 insaturado	Piraclostrobina	Estrobilurina
	35	C6 C7 C8 C9 C10 insaturado	Azoxistrobina	Estrobilurina
	36	C9 C10 insaturado	Clorotalonil	
	37	C8 C9 C10 insaturado	Fludioxonil	
	38	C8 C9 C10 C11 insaturado	Difenoconazol	Azol
	39	C7 C9 C10 C11 insaturado	Propiconazol	Azol
	40	C9 C10 insaturado	Epoxiconazol	Azol
	41	C6 C9 C10 C11 insaturado	Tebuconazol	Azol
	42	C8 C10 insaturado	Tebuconazol	Azol
	43	C6 C7 C8 C9 C10 C11	Piraclostrobina	Estrobilurina
	44	C6 C7 C8 C9 C10 C11 insaturado	Piraclostrobina	Estrobilurina
	45	C6 C8 C9 C10 C11 insaturado	Azoxistrobina	Estrobilurina
	46	C9 C10 insaturado	Clorotalonil	
	47	C7 C8 C9 C10 C11 insaturado	Ciprodinilo	
	48	C9 C10 C11 insaturado	Metalaxilo	
	49	C7 C8 C9 C10 C11	Epoxiconazol	Azol

		C18 insaturado		
	50	C6 C8 C10 C11 C18 insaturado	Tebuconazol	Azol
	51	C6 C8 C10 C12 saturado	Aceite de tomillo	Aceite natural pesticida
	52	C6 C8 C9 saturado	Aceite de ajo	Aceite natural pesticida
	53	C7 C8 C9 C10 C12 saturado	Aceite de gaulteria	Aceite natural pesticida
	54	C6 C7 C8 C9 C12 saturado	Aceite de menta	Aceite natural pesticida
	55	C7 C8 C9 C10 saturado	Aceite de menta verde	Aceite natural pesticida
	56	C10 saturado	Aceite de hoja de clavo	Aceite natural pesticida
	57	C10 saturado	Aceite de árbol del té	Aceite natural pesticida
	58	C6 C7 C8 C9 C12 saturado	Aceite de orégano	Aceite natural pesticida
	59	C10 saturado	Aceite de orégano	Aceite natural pesticida
	60	C8 saturado	Nootkatona (+)	Aceite natural pesticida
	61	C8 saturado	Fortune Aza Technical	Aceite natural pesticida
	62	C6 C7 C8 C9 C10 C12 saturado	Aceite de tomillo	Aceite natural pesticida
	63	C8 saturado	Aceite de ajo	Aceite natural pesticida
	64	C6 C7 C8 C9 C10 C12 saturado	Aceite de limoncillo	Aceite natural pesticida
	65	C8 C9 saturado	Aceite de gaulteria	Aceite natural pesticida
	66	C6 C8 C9 saturado	Aceite de menta	Aceite natural pesticida
	67	C7 C8 C9 saturado	Aceite de menta verde	Aceite natural pesticida
	68	C6 C7 C8 C9 C12 saturado	Aceite de hoja de clavo	Aceite natural pesticida
	69	C8 C9 C12 saturado	Aceite de hoja de canela	Aceite natural pesticida
	70	C6 C7 C8 C12 saturado	Aceite de romero	Aceite natural pesticida
	71	C8 C9 C10 C12 saturado	Aceite de orégano	Aceite natural pesticida
	72	C8 saturado	Extracto de limonoide de aceite de neem	Aceite natural pesticida
	73	C8 saturado	Salannin	Aceite natural pesticida
	74	C6 C7 C8 C10 saturado	Aceite de tomillo	Aceite natural pesticida
	75	C6 C7 C9 C10 saturado	Aceite de gaulteria	Aceite natural pesticida
	76	C6 C7 C8 saturado	Aceite de menta	Aceite natural

			verde	pesticida
	77	C6 C8 C10 C12 saturado	Aceite de romero	Aceite natural pesticida
	78	C6 C7 C8 C9 saturado	Aceite de orégano	Aceite natural pesticida
	79	C7 C8 C9 C10 C12 saturado	Nootkatona (+)	Aceite natural pesticida
	80	C8 C9 C10 C12 saturado	Extracto flavonoide de aceite de karanja	Aceite natural pesticida
	81	C8 C10 C12 saturado	Aza Technical	Aceite natural pesticida
	82	C10 saturado	Salannin	Aceite natural pesticida
	83	C8 C10 saturado	Extracto de limonoide de aceite de neem	Aceite natural pesticida
	84	C6 C7 C8 C9 C10 C11 insaturado	Aceite de tomillo	Aceite natural pesticida
	85	C6 insaturado	Aceite de tomillo	Aceite natural pesticida
	86	C6 C7 insaturado	Aceite de ajo	Aceite natural pesticida
	87	C6 C8 insaturado	Aceite de limoncillo	Aceite natural pesticida
	88	C6 C10 insaturado	Aceite de gaulteria	Aceite natural pesticida
	89	C6 C10 insaturado	Aceite de menta	Aceite natural pesticida
	90	C6 C9 C10 insaturado	Aceite de menta verde	Aceite natural pesticida
	91	C6 C8 C9 C10 insaturado	Aceite de hoja de clavo	Aceite natural pesticida
	92	C6 C8 C10 insaturado	Aceite de hoja de canela	Aceite natural pesticida
	93	C6 insaturado	Aceite de árbol del té	Aceite natural pesticida
	94	C6 insaturado	Aceite de árbol del té	Aceite natural pesticida
	95	C7 C9 C10 insaturado	Aceite de orégano	Aceite natural pesticida
	96	C6 C7 C8 C10 C11 insaturado	Aceite de orégano	Aceite natural pesticida
	97	C6 C8 C10 insaturado	Aceite de romero	Aceite natural pesticida
	98	C10 insaturado	Nootkatona (+)	Aceite natural pesticida
	99	C6 C7 C8 C9 C10 C11 insaturado	Aceite de tomillo	Aceite natural pesticida
	100	C6 C8 C9 C10 insaturado	Aceite de ajo	Aceite natural pesticida
	101	C6 C7 C8 C9 C10 insaturado	Aceite de limoncillo	Aceite natural pesticida
	102	C8 C10 insaturado	Aceite de gaulteria	Aceite natural pesticida
	103	C6 C8 C9 C10	Aceite de menta	Aceite natural

		insaturado		pesticida
	104	C6 C7 C8 C9 C10 insaturado	Aceite de menta verde	Aceite natural pesticida
	105	C10 C11 insaturado	Aceite de hoja de clavo	Aceite natural pesticida
	106	C11 insaturado	Aza Technical	Aceite natural pesticida
	107	C6 C7 C8 C9 C10 insaturado	Aceite de orégano	Aceite natural pesticida
	108	C10 C11 insaturado	Aceite de orégano	Aceite natural pesticida
	109	C10 insaturado	Nootkatona (+)	Aceite natural pesticida
	110	C6 C8 C10 insaturado	Aceite de menta verde	Aceite natural pesticida
	111	C10 insaturado	Aceite de romero	Aceite natural pesticida
	112	C8 C10 insaturado	Aceite de tomillo	Aceite natural pesticida
	113	C10 insaturado	Salannin	Aceite natural pesticida
	114	C10 insaturado	Extracto flavonoide de aceite de karanja	Aceite natural pesticida
	115	C10 insaturado	Extracto de limonoide de aceite de neem	Aceite natural pesticida
	116	C6 insaturado	Clorfenapir	
	117	C6 insaturado	Clorfenapir	
	118	C6 insaturado	Clorfenapir	
	119	C6 insaturado	Clorfenapir	
	120	C6 insaturado	Clorfenapir	
PCT/CA2019/051383	10	C4 C6 C7 C8 C9 C10 C12 saturado	Piraclostrobina	Estrobilurina
	12	C7 C8 C9 C10 saturado	Clorotalonil	
	13	C10 C12 saturado	Fludioxonil Ciprodinilo	
	15B	C4 C10 saturado	Piraclostrobina Azoxistrobina Fludioxonil Difenoconazol Tebuconazol	Estrobilurina Azol
	20B	C4 C6 C10 saturado	Piraclostrobina Azoxistrobina Clorotalonil Ciprodinilo Metalaxilo Difenoconazol Propiconazol Epoxiconazol Tebuconazol	Estrobilurina Azol
	43	C6 C7 C8 C9 C10 C11 insaturado	Piraclostrobina	Estrobilurina
	116	C4 C6 C10	Piraclostrobina	Estrobilurina

		saturado	Azoxistrobina Ciprodinilo Difenoconazol Epoxiconazol Tebuconazol	Azol
	117	C8 saturado	Piraclostrobina Azoxistrobina Tebuconazol	Estrobilurina Azol
	118	C10 saturado	Piraclostrobina	Estrobilurina
	119	C4 C6 C8 saturado	Piraclostrobina Fludioxonil Azoxistrobina Tebuconazol	Estrobilurina Azol
	120	C8 saturado	Piraclostrobina Azoxistrobina Fludioxonil Tebuconazol	Estrobilurina Azol
	121	C10 C12 saturado	Piraclostrobina Azoxistrobina Fludioxonil Difenoconazol	Estrobilurina Azol
	122	C4 C6 C8 saturado	Piraclostrobina Fludioxonil Difenoconazol Azoxistrobina Tebuconazol	Estrobilurina Azol
	123	C8 saturado	Piraclostrobina Azoxistrobina Difenoconazol Tebuconazol	Estrobilurina Azol
	124	C8 C10 C12 saturado	Piraclostrobina Fludioxonil Tebuconazol	Estrobilurina Azol
	125	C12 saturado	Azoxistrobina	Estrobilurina
	126	C4 C6 C8 saturado	Piraclostrobina Azoxistrobina Difenoconazol	Estrobilurina Azol
	127	C5 C6 saturado	Piraclostrobina Fludioxonil Azoxistrobina Tebuconazol	Estrobilurina Azol
	128	C8 saturado	Piraclostrobina Azoxistrobina Fludioxonil Difenoconazol Tebuconazol	Estrobilurina Azol
	129	C9 saturado	Piraclostrobina Azoxistrobina Fludioxonil	Estrobilurina
	130	C7 saturado	Piraclostrobina Fludioxonil	Estrobilurina
	131	C7 saturado	Piraclostrobina	Estrobilurina
	132	C6 C7 saturado	Piraclostrobina Difenoconazol Azoxistrobina	Estrobilurina Azol

			Tebuconazol	
	133	C8 saturado	Piraclostrobina Difenoconazol Tebuconazol	Estrobilurina Azol
	134	C7 saturado	Piraclostrobina Azoxistrobina Tebuconazol	Estrobilurina Azol
	135	C5 C11 saturado	Piraclostrobina Difenoconazol	Estrobilurina Azol
	136	C4 C10 saturado	Aceite de tomillo Aceite de ajo Aceite de limoncillo Aceite de gaulteria Aceite de menta verde Aceite de hoja de canela Aceite de geranio Nootkatona (+) Aceite de rosas Aceite de hoja de clavo	Aceites pesticidas naturales
	137	C6 saturado	Aceite de tomillo Aceite de limoncillo Menta verde	Aceites pesticidas naturales
	138	C8 saturado	Aceite de ajo	Aceites pesticidas naturales
	139	C10 saturado	Aceite de tomillo Aceite de limoncillo Aceite de menta verde Aceite de hoja de clavo Aceite de árbol del té	Aceites pesticidas naturales
	140	C4 saturado	Aceite de tomillo	Aceites pesticidas naturales
	141	C6 C8 saturado	Aceite de tomillo Aceite de limoncillo Aceite de hoja de clavo Aceite de hoja de canela	Aceites pesticidas naturales
	142	C4 saturado	Aceite de menta Aceite de limoncillo Aceite de gaulteria Aceite de geranio Aceite de romero	Aceites pesticidas naturales
	143	C10 saturado	Aceite de tomillo Aceite de hoja de clavo	Aceites pesticidas naturales
	144	C4 C10 saturado	Aceite de tomillo Aceite de orégano	Aceites pesticidas

				naturales
	145	C6 saturado	Aceite de tomillo Aceite de ajo Aceite de gaulteria Aceite de menta Aceite de menta verde Aceite de hoja de clavo Aceite de romero Aceite de orégano Aceite de hoja de canela	Aceites pesticidas naturales
	146	C8 saturado	Aceite de tomillo	Aceites pesticidas naturales
	147	C8 saturado	Aceite de tomillo Aceite de hoja de canela Aceite de limoncillo	Aceites pesticidas naturales
	148	C4 saturado	Aceite de ajo	Aceites pesticidas naturales
	149	C10 saturado	Aceite de ajo Aceite de gaulteria Aceite de orégano	Aceites pesticidas naturales
	150	C12 saturado	Aceite de hoja de clavo	Aceites pesticidas naturales
	151	C4 C6 C10 saturado	Aceite de tomillo Aceite de limoncillo Aceite de hoja de clavo Aceite de hoja de canela Aceite de geranio Aceite de orégano Aceite de rosas Aceite de árbol del té Aceite de romero Aceite de ajo Aceite de menta verde Aceite de menta	Aceites pesticidas naturales
	152	C8 saturado	Aceite de menta verde Aceite de romero	Aceites pesticidas naturales
	153	C10 C12 saturado	Aceite de limoncillo Aceite de hoja de canela	Aceites pesticidas naturales
	154	C10 C12 saturado	Aceite de tomillo Aceite de ajo Aceite de limoncillo Aceite de menta	Aceites pesticidas naturales

			Aceite de hoja de clavo Aceite de hoja de canela Aceite de menta verde Aceite de gaulteria Aceite de tomillo	
	155	C4 C6 saturado	Aceite de árbol del té Aceite de geranio Aceite de menta Aceite de menta verde Aceite de hoja de clavo Aceite de hoja de canela	Aceites pesticidas naturales
	156	C4 C6 C8 C10 C12 saturado	Aceite de tomillo Aceite de limoncillo Aceite de menta Aceite de romero Azatech Aceite de menta verde Aceite de gaulteria Aceite de hoja de clavo Aceite de hoja de canela	Aceites pesticidas naturales
	157	C7 saturado	Aceite de tomillo Aceite de limoncillo Aceite de gaulteria Aceite de hoja de clavo Aceite de geranio	Aceites pesticidas naturales
	158	C9 saturado	Aceite de tomillo Aceite de hoja de clavo	Aceites pesticidas naturales
	159	C5 C6 C11	Aceite de limoncillo Aceite de menta verde Aceite de hoja de clavo Aceite de tomillo Aceite de ajo Aceite de hoja de canela Aceite de geranio Aceite de orégano	Aceites pesticidas naturales
	160	C7 saturado	Aceite de hoja de clavo Aceite de romero	Aceites pesticidas naturales
	161	C7 saturado	Aceite de ajo Aceite de hoja de	Aceites pesticidas

			clavo	naturales
	162	C7 saturado	Aceite de ajo Aceite de hoja de canela	Aceites pesticidas naturales
	163	C9 saturado	Aceite de hoja de clavo	Aceites pesticidas naturales
	164	C5 C10 saturado	Aceite de limoncillo Aceite de gaulteria Aceite de geranio Aceite de romero Aceite de tomillo Aceite de ajo	Aceites pesticidas naturales
	165	C9 saturado	Aceite de ajo Aceite de hoja de clavo Aceite de hoja de canela Aceite de árbol del té Aceite de orégano Azatech Aceite de tomillo Aceite de limoncillo	Aceites pesticidas naturales
	166	C8 saturado	Aceite de menta verde Aceite de romero Extracto flavonoide de aceite de karanja Aceite de gaulteria	Aceites pesticidas naturales
	167	C5 C6 saturado	Aceite de tomillo Aceite de ajo Aceite de menta Aceite de menta verde Aceite de hoja de clavo Aceite de hoja de canela Aceite de gaulteria	Aceites pesticidas naturales
	168	C7 saturado	Aceite de tomillo Aceite de hoja de clavo Aceite de hoja de canela Aceite de orégano	Aceites pesticidas naturales
	169	C9 saturado	Aceite de tomillo Aceite de orégano	Aceites pesticidas naturales
	170	C9 saturado	Aceite de hoja de canela	Aceites pesticidas naturales
	171	C7 saturado	Aceite de tomillo Aceite de menta verde	Aceites pesticidas naturales

			Aceite de hoja de clavo Aceite de hoja de canela	
	172	C7 saturado	Aceite de menta Aceite de menta verde	Aceites pesticidas naturales
	173	C4 C6 C8 C9 C10 saturado y insaturado	Picoxistrobina	Estrobilurina
	174	C6 C10 saturado y insaturado	Picoxistrobina	Estrobilurina
	175	C8 C10 insaturado	Mancozeb	
	176	C6 C8 C9 C10 C12 C18 saturado y insaturado	Isopirazam	
	177	C4 C12 saturado	Oxatiapiprolin	
	178	C4 C6 C8 C9 C10 C11 C12 C18 saturado y insaturado	Pentiopirad	
	179	C4 saturado	Protioconazol	Azol
	180	C6 C8 C10 C11 saturado y insaturado	Trifloxistrobina	Estrobilurina
	181	C4 C5 C6 C7 C8 C9 C10 C11 C12 saturado	Trifloxistrobina	Estrobilurina
	182	C6 C7 C8 C9 C10 C12 saturado y insaturado	Picoxistrobina	Estrobilurina
	182 (segundo)	C4 C6 C7 C8 C9 C10 C11 C12 saturado y insaturado	Picoxistrobina	Estrobilurina
	183	C8 C9 saturado y insaturado	Pentiopirad	
	184	C4 C5 C6 C8 C10 C11 saturado y insaturado	Protioconazol	Azol
	185	C7 C9 C11 saturado	Mancozeb	
	186	C8 C9 C10 saturado y insaturado	Picoxistrobina	Estrobilurina
	187	C4 C5 C8 C10 saturado y insaturado	Picoxistrobina	Estrobilurina
	188	C6 C7 C9 C10 insaturado	Pentiopirad	
	189	C4 saturado	Protioconazol	Azol
	195	C6 C7 C8 C9 C10 C11 C12 saturado y insaturado	Clorfenapir	

PCT/CA2019/051388	16	C4 C6 C7 C8 C9 C10 C12 saturado	Piraclostrobina	Estrobilurina
	75	C8 saturado	Clorfenapir	
PCT/CA2020/051783	16	C4 C6 C7 C10 saturado	Clorantraniliprol	
Datos actualmente no publicados	16	C4 C6 C7 C8 C9 C10 saturado	Piraclostrobina	Estrobilurina
	69A	C4 C5 C6 C7 C8 C9 C10 C11 C12 saturado y insaturado	Clortraniliprol	
	69B	C4 C5 C6 C7 C8 C9 C10 C11 C12 saturado y insaturado	Clortraniliprol	
	70A	C6 C7 C8 C9 saturado y insaturado	Clortraniprol	
	70B	C6 C7 C8 C9 saturado y insaturado	Clortraniprol	
	71	C6 insaturado	Clortraniliprol	
	72	C8 C10 saturado y insaturado	Clortraniliprol	
	73	C4 C7 C10 saturado	Clortraniliprol	

Ejemplos Predictivos

Solicitud	Tabla	Ácido alifático	Activo	Género
PCT/CA2019/051386	89	Saturado y insaturado C4-C12 C4 C6 C7 C8 C10 C12	Benzovindiflupir Bixafen Boscalida Ciproconazol Fenpicoxamid Fenpirazamina Florilpicoxamid Flutriafol Fluxapiroxad Isopirazam Isotianil Kresoxim-metilo Metrafenona Oxatiapiprolin Penflufen Pentiopirad Picoxistrobina Protioconazol Pydiflumetofen (Adepidin) Revisol Sedaxano Trifloxistrobina	

			Valifenalato	
	90	Saturado y insaturado C4-C12 C8 C9 C10 C11	Bixafen Boscalida Fenpicoxamid Fenpirazamina Florilpicoxamid Fluxapiroxad Isotianil Kresoxim-metilo Metrafenona Penflufen Pentopirad Picoxistrobina Pidiflumetofen (Adepidin) Revisol Trifloxistrobina Valifenalato	
	91	Saturado y insaturado C4-C12 C6 C7 C8 C9 C10 C11 C12	Bixafen Fenpicoxamid Florilpicoxamid Fluxapiroxad Kresoxim-metilo Picoxistrobina Pidiflumetofen (Adepidin) Revisol Trifloxistrobina Valifenalato	

Ejemplo 22: Eficacia insecticida en planta contra *Trichoplusia ni* por cloranthraniliprol (ingrediente activo en el insecticida Exirel®), en combinación con varios ácidos alifáticos ejemplares.

Tabla 74: Eficacia en planta esperada o observada (%) del insecticida Exirel® (ingrediente activo ciantraniliprol) a 175 ppm (17,5 ppm de ciantraniliprol) en combinación con ácidos alifáticos ejemplares a 750 ppm

Tratamiento	Tasa de Sobrevida (%)	Eficacia Observada, W (%)	Eficacia Esperada, E (%)	Factor de Sinergia (W/E)
10% Isopropanol	66,1%	-	-	-
Exirel® @ 175 ppm (17,5	32,4%	51,0%	-	-

ppm de ciantraniliprol)				
Caprato de Potasio @ 750 ppm	69,7%	5,5%	-	-
Ácido trans-2-Hexenoico, sal de potasio @ 750 ppm	73,6%	11,3%	-	-
Ácido trans-3-Hexenoico, sal de potasio @ 750 ppm	70,8%	7,1%	-	-
Ácido trans-2-decenoico @ 750 ppm	66,1%	0,0%	-	-
Ácido 9-decenoico @ 750 ppm	65,8%	-0,4%	-	-
Exirel® + Caprato de Potasio	3,6%	94,5%	56,4%	1,68
Exirel® + Ácido trans-2-Hexenoico, sal de potasio	18,9%	71,4%	62,3%	1,15
Exirel® + Ácido trans-3-Hexenoico, sal de potasio	6,1%	90,8%	58,1%	1,56
Exirel® + Ácido trans-2-decenoico	6,1%	90,8%	51,0%	1,78
Exirel® + Ácido 9-decenoico	23,1%	65,1%	50,6%	1,29

Details of Examples and Supporting Experimental Data –Saturated and Unsaturated C6-C10 Aliphatic Acids with All Actives

EXAMPLES FROM SPECIFICATION OF PCT/IB2018/057597

Example 1: Growth inhibition of *Fusarium oxysporum* by pyraclostrobin in combination with several exemplary C6-C10 unsaturated aliphatic acids (or agriculturally acceptable salts thereof)

Sample preparation:

Table 1: Growth inhibition of *Fusarium oxysporum* by pyraclostrobin in combination with several exemplary unsaturated aliphatic acids (or agriculturally acceptable salts thereof).

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.0154			
		(2E,4E)-2,4-hexadienoic acid, potassium salt		0.625		
		(2E,4E)-2,4-hexadienoic acid		0.125		
		Trans-2-hexenoic acid		0.3125		
		Trans-3-hexenoic acid		0.3125		
1	Pyraclostrobin	(2E,4E)-2,4-hexadienoic acid, potassium salt	0.00385	0.1563	40	0.50
2	Pyraclostrobin	(2E,4E)-2,4-hexadienoic acid	0.00385	0.03125	20	0.50
3	Pyraclostrobin	(2E,4E)-2,4-hexadienoic acid	0.001925	0.03906	8	0.44
4	Pyraclostrobin	Trans-2-hexenoic acid	0.00385	0.1563	40	0.75
5	Pyraclostrobin	Trans-3-hexenoic acid	0.00385	0.07813	20	0.50

Example 2: Growth inhibition of *Fusarium oxysporum* by fludioxonil in combination with several exemplary unsaturated aliphatic acids (or agriculturally acceptable salts thereof)

Table 2: Growth inhibition of *Fusarium oxysporum* by fludioxonil in combination with several exemplary unsaturated aliphatic acids (or agriculturally acceptable salts thereof).

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Fludioxonil		4.8125×10^{-4}			
		(2E,4E)-2,4-hexadienoic acid, potassium salt		0.625		
		(2E,4E)-2,4-hexadienoic acid		0.125		
		Trans-2-hexenoic acid		0.3125		
		Trans-3-hexenoic acid		0.3125		
1	Fludioxonil	(2E,4E)-2,4-hexadienoic acid, potassium salt	6.0188×10^{-5}	0.03906	649	0.19
2	Fludioxonil	(2E,4E)-2,4-hexadienoic acid	6.0188×10^{-5}	0.01563	260	0.25
3	Fludioxonil	Trans-2-hexenoic acid	1.2038×10^{-4}	0.07813	649	0.5
4	Fludioxonil	Trans-3-hexenoic acid	1.2038×10^{-4}	0.07813	649	0.5

Example 3: Growth inhibition of *Fusarium oxysporum* by fludioxonil in combination with several exemplary unsaturated aliphatic acids:

Table 3: Growth inhibition of *Fusarium oxysporum* by fludioxonil in combination with several exemplary unsaturated aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Fludioxonil		2.4063×10^{-4}			
		3-Octenoic acid		0.1466		
		Trans-2-octenoic acid		0.1492		
		3-Decenoic acid		0.07336		
		Trans-2-decenoic acid		0.03625		
		9-Decenoic acid		0.07172		
1	Fludioxonil	3-Octenoic acid	1.2031×10^{-4}	0.01832	152	0.63
2	Fludioxonil	Trans-2-octenoic acid	1.2031×10^{-4}	0.01865	155	0.63
3	Fludioxonil	3-Decenoic acid	1.2031×10^{-4}	0.00917	76	0.63
4	Fludioxonil	Trans-2-decenoic acid	1.2031×10^{-4}	0.00906	75	0.75
5	Fludioxonil	9-Decenoic acid	1.2031×10^{-4}	0.01793	149	0.75

Example 4: Growth inhibition of *Fusarium oxysporum* by thyme oil in combination in combination with several exemplary unsaturated aliphatic acids

Table 4: Growth inhibition of *Fusarium oxysporum* by thyme oil in combination in combination with several exemplary unsaturated aliphatic acids.

Exa mpl e 5: Gro wth inhi biti on of	Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
		Thyme oil		1.25			
			3-Octenoic acid		0.14656		
			Trans-2-octenoic acid		0.14922		
			3-Decenoic acid		0.07336		
			Trans-2-decenoic acid		0.03625		
			9-Decenoic acid		0.07172		
	1	Thyme oil	3-Octenoic acid	0.3125	0.01832	0.059	0.38
	2	Thyme oil	Trans-2-octenoic acid	0.3125	0.01865	0.060	0.38
	3	Thyme oil	3-Decenoic acid	0.3125	0.00917	0.029	0.38
	4	Thyme oil	Trans-2-decenoic acid	0.3125	0.00906	0.029	0.50
	5	Thyme oil	9-Decenoic acid	0.3125	0.01793	0.057	0.50

Botrytis cinerea by neem oil limonoid extract (extracted from cold-pressed neem oil) and Fortune Aza Technical (azadirachtin extract) in combination with various exemplary unsaturated aliphatic acids

Table 5: Growth inhibition of *Botrytis cinerea* by limonoid extract from cold-pressed neem oil in combination with various exemplary unsaturated aliphatic acids

	Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
		Neem oil limonoid extract		0.25			
			3-octenoic acid		0.14656		
			Trans-2-octenoic acid		0.07461		
	1	Neem oil limonoid extract	3-octenoic acid	0.007812 5	0.09160	11.7	0.66
	2	Neem oil limonoid extract	3-octenoic acid	0.015625	0.09160	5.9	0.69
	3	Neem oil limonoid extract	3-octenoic acid	0.0625	0.07656	1.2	0.75
	4	Neem oil limonoid extract	Trans-2-octenoic acid	0.007812 5	0.04663	6.0	0.66
	5	Neem oil limonoid extract	Trans-2-octenoic acid	0.03125	0.03730	1.2	0.63

Table 6: Growth inhibition of *Botrytis cinerea* by Fortune Aza Technical in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Fortune Aza Tech.		0.25			
		3-octenoic acid		0.14656		
		Trans-2-octenoic acid		0.07461		
1	Fortune Aza Tech.	3-octenoic acid	0.0078125	0.09160	11.7	0.66
2	Fortune Aza Tech.	3-octenoic acid	0.015625	0.09160	5.9	0.69
3	Fortune Aza Tech.	3-octenoic acid	0.0625	0.07656	1.2	0.75
4	Fortune Aza Tech.	Trans-2-octenoic acid	0.0078125	0.04663	6.0	0.66
5	Fortune Aza Tech.	Trans-2-octenoic acid	0.03125	0.03730	1.2	0.63

Example 6: Growth inhibition of *Fusarium oxysporum* by fludioxonil in combination with various exemplary saturated aliphatic acids**Table 7:** Growth inhibition of *Fusarium oxysporum* by fludioxonil in combination with various exemplary saturated aliphatic acids (and salts thereof).

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Fludioxonil		4.8125×10^{-4}			
		Hexanoic acid		0.14531		
		Octanoic acid		0.56875		
		Decanoic acid		0.25		
		Decanoic acid, potassium salt		0.078125		
		Dodecanoic acid		0.1		
1	Fludioxonil	Hexanoic acid	1.20375×10^{-4}	0.00114	10	0.26
2	Fludioxonil	Octanoic acid	1.20375×10^{-4}	0.00444	37	0.26
3	Fludioxonil	Decanoic acid	1.20375×10^{-4}	0.00195	16	0.26

4	Fludioxonil	Decanoic acid, potassium salt	1.20375×10^{-4}	0.00061	5	0.26
5	Fludioxonil	Dodecanoic acid	1.20375×10^{-4}	0.00078	7	0.26

Table 8: Growth inhibition of *Fusarium oxysporum* by fludioxonil in combination with various exemplary saturated aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Fludioxonil		4.8125×10^{-4}			
		Hexanoic acid		0.29		
		Octanoic acid		1.14		
		Decanoic acid		0.25		
		Decanoic acid, potassium salt		0.078125		
		Dodecanoic acid		0.1		
1	Fludioxonil	Hexanoic acid	1.20375×10^{-4}	0.03633	309	0.38
2	Fludioxonil	Octanoic acid	1.20375×10^{-4}	0.14219	1181	0.38
3	Fludioxonil	Decanoic acid	1.20375×10^{-4}	0.0625	519	0.5
4	Fludioxonil	Decanoic acid, potassium salt	1.20375×10^{-4}	0.01953	162	0.5
5	Fludioxonil	Dodecanoic acid	1.20375×10^{-4}	0.025	208	0.5

Example 7: Growth inhibition of *Fusarium oxysporum* by limonoid extract from cold-pressed neem oil and Fortune Aza Technical (azadirachtin extract) in combination with various exemplary saturated aliphatic acids

Table 9: Growth inhibition of *Fusarium oxysporum* by neem oil limonoid extract or Fortune Aza Technical (Azatech) in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Neem oil limonoid extract		0.5			
	Azatech		0.5			

		Octanoic acid		0.56875		
		Decanoic acid		0.25		
1	Neem oil limonoid extract	Octanoic acid	0.0625	0.07109	1.14	0.25
2	Neem oil limonoid extract	Decanoic acid	0.125	0.0625	0.5	0.5
3	Fortune Aza Tech.	Octanoic acid	0.0625	0.07109	1.14	0.25
4	Fortune Aza Tech.	Decanoic acid	0.125	0.0625	0.5	0.5

Example 8: Growth inhibition of *Fusarium oxysporum* by pyraclostrobin, azoxystrobin, chlorothalonil, fluidioxonil, cyprodinil, difenoconazole, and tebuconazole, in combination with various exemplary saturated aliphatic acids

Table 10: Growth inhibition of *Fusarium oxysporum* by pyraclostrobin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.015			
		Hexanoic acid		0.15625		
		Heptanoic acid		0.15625		
		Octanoic acid		0.15625		
		Nonanoic acid		0.15625		
		Decanoic acid		0.125		
		Dodecanoic acid		0.1		
1	Pyraclostrobin	Hexanoic acid	0.00187	0.019531	10	0.25
2	Pyraclostrobin	Heptanoic acid	0.00375	0.039062	10	0.50
3	Pyraclostrobin	Octanoic acid	0.00187	0.039062	21	0.38
4	Pyraclostrobin	Nonanoic acid	0.00375	0.039062	10	0.50
5	Pyraclostrobin	Decanoic acid	0.00375	0.015625	4	0.38
6	Pyraclostrobin	Dodecanoic acid	0.00375	0.025	7	0.50

Table 11: Growth inhibition of *Fusarium oxysporum* by azoxystrobin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Azoxystrobin		0.075			
		Hexanoic acid		0.15625		
		Heptanoic acid		0.15625		
		Octanoic acid		0.15625		
		Nonanoic acid		0.07812		
		Dodecanoic acid		0.1		
1	Azoxystrobin	Hexanoic acid	0.01875	0.039062	2	0.50
2	Azoxystrobin	Heptanoic acid	0.01875	0.039062	2	0.50
3	Azoxystrobin	Octanoic acid	0.01875	0.039062	2	0.50
4	Azoxystrobin	Nonanoic acid	0.01875	0.019531	1	0.50
5	Azoxystrobin	Dodecanoic acid	0.01875	0.025	1.3	0.50

Table 12: Growth inhibition of *Fusarium oxysporum* by chlorothalonil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Chlorothalonil		0.000125			
		Heptanoic acid		0.15625		
		Octanoic acid		0.3125		
		Nonanoic acid		0.3125		
		Dodecanoic acid		0.1		
1	Chlorothalonil	Heptanoic acid	6.25x10 ⁻⁵	0.039062	625	0.75
2	Chlorothalonil	Octanoic acid	6.25x10 ⁻⁵	0.039062	625	0.63
3	Chlorothalonil	Nonanoic acid	6.25x10 ⁻⁵	0.019531	313	0.56
4	Chlorothalonil	Dodecanoic acid	6.25x10 ⁻⁵	0.025	400	0.75

Table 13: Growth inhibition of *Fusarium oxysporum* by fludioxonil and cyprodinil, in combination with an exemplary saturated aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Fludioxonil		0.021			
	Cyprodinil		0.009			
		Dodecanoic acid		0.1		
1	Fludioxonil	Dodecanoic acid	0.00525	0.025	5	0.50

Table 14: Growth inhibition of *Fusarium oxysporum* by difenoconazole, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Difenoconazole		0.051			
		Heptanoic acid		0.15625		
		Octanoic acid		0.3125		
1	Difenoconazole	Heptanoic acid	0.01275	0.039062	3	0.50
2	Difenoconazole	Octanoic acid	0.01275	0.078125	6	0.50

Table 15: Growth inhibition of *Fusarium oxysporum* by tebuconazole, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Tebuconazole		0.255			
		Heptanoic acid		0.15625		
		Octanoic acid		0.15625		
		Nonanoic acid		0.15625		
		Decanoic acid		0.03125		
		Dodecanoic acid		0.1		
1	Tebuconazole	Heptanoic acid	0.05625	0.039062	0.7	0.50
2	Tebuconazole	Octanoic acid	0.05625	0.039062	0.7	0.50
3	Tebuconazole	Nonanoic acid	0.05625	0.039062	0.7	0.50
4	Tebuconazole	Decanoic acid	0.05625	0.007812	0.14	0.50
5	Tebuconazole	Dodecanoic acid	0.05625	0.0025	0.4	0.50

Example 9: Growth inhibition of *Sclerotinia sclerotiorum* by pyraclostrobin, azoxystrobin, propiconazole, epiconazole, tebuconazole, and difenoconazole, in combination with various exemplary saturated aliphatic acids

Table 16: Growth inhibition of *Sclerotinia sclerotiorum* by pyraclostrobin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/	FIC Index
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					Compound A	
	Pyraclostrobin		0.0075			
		Hexanoic acid		0.039062		
		Heptanoic acid		0.039062		
		Octanoic acid		0.019531		
		Nonanoic acid		0.019531		
		Decanoic acid		0.15625		
		Dodecanoic acid		0.05		
1	Pyraclostrobin	Hexanoic acid	9.375×10^{-4}	0.009765	10	0.38
2	Pyraclostrobin	Heptanoic acid	4.688×10^{-4}	0.004883	10	0.19
3	Pyraclostrobin	Octanoic acid	9.375×10^{-4}	0.004883	5	0.38
4	Pyraclostrobin	Nonanoic acid	4.688×10^{-4}	0.004883	10	0.31
5	Pyraclostrobin	Decanoic acid	9.375×10^{-4}	0.001953	2	0.14
6	Pyraclostrobin	Dodecanoic acid	9.375×10^{-4}	0.00625	7	0.25

Table 17: Growth inhibition of *Sclerotinia sclerotiorum* by azoxystrobin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Azoxystrobin		0.15			
		Hexanoic acid		0.039062		
		Heptanoic acid		0.039062		
		Octanoic acid		0.039062		
		Nonanoic acid		0.078125		
		Decanoic acid		0.078125		
		Dodecanoic acid		0.05		
1	Azoxystrobin	Hexanoic acid	0.0375	0.019531	0.52	0.75
2	Azoxystrobin	Heptanoic acid	0.0375	0.009766	0.26	0.50
3	Azoxystrobin	Octanoic acid	0.01875	0.004883	0.26	0.25
4	Azoxystrobin	Nonanoic acid	0.01875	0.004883	0.26	0.19
5	Azoxystrobin	Decanoic acid	0.0375	0.003906	0.10	0.75
6	Azoxystrobin	Dodecanoic acid	0.009375	0.003125	0.33	0.13

Table 18: Growth inhibition of *Sclerotinia sclerotiorum* by propiconazole, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Propiconazole		0.089			
		Decanoic acid		0.078125		
		Dodecanoic acid		0.05		
1	Propiconazole	Decanoic acid	0.0445	0.0078125	0.18	0.60
2	Propiconazole	Dodecanoic acid	0.0223	0.0125	0.56	0.50

Table 19: Growth inhibition of *Sclerotinia sclerotiorum* by epiconazole and tebuconazole, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Epoxiconazole		0.03			
	Tebuconazole		0.225			
		Hexanoic acid		0.078125		
		Heptanoic acid		0.0390625		
		Octanoic acid		0.078125		
		Nonanoic acid		0.078125		
		Decanoic acid		0.03125		
		Dodecanoic acid		0.1		
1	Epoxiconazole	Heptanoic acid	0.0075	0.009765	1.3	0.50
2	Epoxiconazole	Octanoic acid	0.0375	0.004883	1.3	0.19
3	Epoxiconazole	Decanoic acid	0.075	0.003906	0.5	0.38
4	Epoxiconazole	Dodecanoic acid	0.0375	0.00625	1.7	0.19
5	Tebuconazole	Hexanoic acid	0.031875	0.009765	0.31	0.27
6	Tebuconazole	Heptanoic acid	0.031875	0.004883	0.15	0.27
7	Tebuconazole	Octanoic acid	0.06375	0.004883	0.15	0.20
8	Tebuconazole	Nonanoic acid	0.031875	0.004883	0.15	0.20
9	Tebuconazole	Decanoic acid	0.06375	0.003906	0.06	0.41
10	Tebuconazole	Dodecanoic acid	0.031875	0.00625	0.20	0.20

Table 20: Growth inhibition of *Sclerotinia sclerotiorum* by difenoconazole, in combination with various exemplary saturated aliphatic acids

Exa mple 10: Gro wth inhib ition	Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
		Difenoconazole		0.01275			
			Nonanoic acid		0.039062		
			Decanoic acid		0.015615		
			Dodecanoic acid		0.025		
	1	Difenoconazole	Nonanoic acid	0.006375	0.009766	1.5	0.75
	2	Difenoconazole	Decanoic acid	0.006375	0.003906	0.6	0.75
	4	Difenoconazole	Dodecanoic acid	0.0375	0.00625	2.0	0.50

of *Botrytis cinerea* by pyraclostrobin, azoxystrobin, cyprodinil, metalaxyl, epiconazole, tebuconazole, propiconazole, and difenoconazole, in combination with various exemplary saturated aliphatic acids

Table 21: Growth inhibition of *Botrytis cinerea* by pyraclostrobin, in combination with various exemplary saturated aliphatic acids

Combina tion	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.0019			
		Hexanoic acid		0.078125		
		Heptanoic acid		0.078125		
		Octanoic acid		0.078125		
		Nonanoic acid		0.078125		
		Decanoic acid		0.03125		
		Dodecanoic acid		0.025		
1	Pyraclostrobin	Hexanoic acid	9.375×10^{-4}	0.009766	10	0.63
2	Pyraclostrobin	Heptanoic acid	9.375×10^{-4}	0.004883	5	0.56
3	Pyraclostrobin	Octanoic acid	4.688×10^{-4}	0.002441	5	0.28
4	Pyraclostrobin	Nonanoic acid	4.688×10^{-4}	0.002441	5	0.28
5	Pyraclostrobin	Decanoic acid	2.344×10^{-4}	0.001953	8	0.19
6	Pyraclostrobin	Dodecanoic acid	9.375×10^{-4}	0.003125	3	0.63

Table 22: Growth inhibition of *Botrytis cinerea* by azoxystrobin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Azoxystrobin		0.0375			
		Hexanoic acid		0.078125		
		Heptanoic acid		0.078125		
		Octanoic acid		0.078125		
		Nonanoic acid		0.078125		
		Decanoic acid		0.078125		
1	Azoxystrobin	Hexanoic acid	0.01875	0.019531	1	0.75
2	Azoxystrobin	Heptanoic acid	0.01875	0.009765	0.5	0.63
3	Azoxystrobin	Octanoic acid	0.01875	0.009765	0.5	0.63
4	Azoxystrobin	Nonanoic acid	0.01875	0.009765	0.5	0.63
5	Azoxystrobin	Decanoic acid	0.009375	0.078125	0.8	0.35

Table 23: Growth inhibition of *Botrytis cinerea* by pyraclostrobin, cyprodinil, metalaxyl, azoxystrobin, epoxiconazole, and tebuconazole, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.00375			
	Cyprodinil		0.0045			
	Metalaxyl		0.316			
	Azoxystrobin		0.075			
	Epoxiconazole		0.03			
	Tebuconazole		0.1125			
		Decanoic acid	0.03125			
1	Pyraclostrobin	Decanoic acid	2.344×10^{-4}	0.001953	8	0.13
3	Cyprodinil	Decanoic acid	5.625×10^{-4}	0.03125	28	0.63
4	Metalaxyl	Decanoic acid	0.0395	0.015625	0.4	0.63
5	Azoxystrobin	Decanoic acid	0.009375	0.0078125	0.8	0.38
6	Epoxiconazole	Decanoic acid	0.00375	0.015625	4	0.50
7	Tebuconazole	Decanoic acid	0.014062	0.0078125	0.6	0.38

Table 24: Growth inhibition of *Botrytis cinerea* by difenoconazole and propiconazole, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Difenoconazole		0.051			
	Propiconazole		0.089			

		Hexanoic acid		0.15625		
		Heptanoic acid		0.15625		
		Octanoic acid		0.15625		
		Nonanoic acid		0.15625		
		Decanoic acid		0.3125		
		Dodecanoic acid		0.05		
1	Difenoconazole	Hexanoic acid	0.01275	0.039062	3.1	0.50
2	Difenoconazole	Heptanoic acid	0.01275	0.019531	1.5	0.38
3	Difenoconazole	Octanoic acid	0.01275	0.019531	1.5	0.38
4	Difenoconazole	Nonanoic acid	0.01275	0.019531	1.5	0.38
5	Difenoconazole	Decanoic acid	0.006275	0.015625	2.5	0.18
6	Difenoconazole	Dodecanoic acid	0.01275	0.0125	1.0	0.5
7	Propiconazole	Decanoic acid	0.011125	0.015625	1.4	0.18
8	Propiconazole	Dodecanoic acid	0.02225	0.0125	0.6	0.5

Table 25: Growth inhibition of *Botrytis cinerea* by tebuconazole, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B / Compound A	FIC Index
	Tebuconazole		0.1125			
		Hexanoic acid		0.078125		
		Heptanoic acid		0.078125		
		Octanoic acid		0.078125		
		Nonanoic acid		0.078125		
		Decanoic acid		0.015625		
		Dodecanoic acid		0.05		
1	Tebuconazole	Hexanoic acid	0.014062	0.009766	0.7	0.25
2	Tebuconazole	Heptanoic acid	0.014062	0.004883	0.3	0.19
3	Tebuconazole	Octanoic acid	0.014062	0.004883	0.3	0.19
4	Tebuconazole	Nonanoic acid	0.014062	0.004883	0.3	0.19
5	Tebuconazole	Decanoic acid	0.007031	0.003906	0.6	0.31
6	Tebuconazole	Dodecanoic acid	0.014062	0.003125	0.2	0.19

Table 26: Growth inhibition of *Botrytis cinerea* by cyprodinil and metalaxyl, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B / Compound A	FIC Index
	Cyprodinil		0.0045			
	Metalaxyl		0.316			
		Octanoic acid		0.078125		
		Decanoic acid		0.078125		
		Dodecanoic acid		0.05		

1	Cyprodinil	Decanoic acid	0.001125	0.03125	28	0.65
2	Metalaxyl	Octanoic acid	0.01975	0.004883	0.25	0.13
3	Metalaxyl	Decanoic acid	0.0395	0.015625	0.4	0.33
4	Metalaxyl	Dodecanoic acid	0.079	0.0125	0.16	0.50

Example 11: Growth inhibition of *Fusarium oxysporum* by pyraclostrobin, azoxystrobin, fludioxonil, cyprodinil, difenoconazole, epoxiconazole, and tebuconazole, in combination with various exemplary unsaturated aliphatic acids

Table 27: Growth inhibition of *Fusarium oxysporum* by pyraclostrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.015			
		(2E,4E)-2,4-hexadienoic acid		0.025		
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		5-Hexenoic acid		0.3125		
		3-Heptenoic acid		0.15625		
		Trans-2-octenoic acid		0.3125		
		Trans-3-octenoic acid		0.15625		
		7-Octenoic acid		0.3125		
		3-Decenoic acid		0.3125		
		9-Decenoic acid		0.3125		
1	Pyraclostrobin	(2E,4E)-2,4-hexadienoic acid	0.00375	0.0625	17	0.50
2	Pyraclostrobin	Trans-3-hexenoic acid	0.001875	0.078125	42	0.38
3	Pyraclostrobin	4-Hexenoic acid	0.00375	0.15625	42	0.75
4	Pyraclostrobin	5-Hexenoic acid	0.00375	0.039062	10	0.38
5	Pyraclostrobin	3-Heptenoic acid	0.001875	0.078125	42	0.63
6	Pyraclostrobin	Trans-2-octenoic acid	0.001875	0.019531	10	0.19
7	Pyraclostrobin	Trans-3-octenoic acid	0.001875	0.019531	10	0.25
8	Pyraclostrobin	7-Octenoic acid	0.001875	0.019531	10	0.19
9	Pyraclostrobin	3-Decenoic acid	0.00375	0.078125	21	0.50
10	Pyraclostrobin	9-Decenoic acid	0.00375	0.039062	10	0.38

Table 28: Growth inhibition of *Fusarium oxysporum* by azoxystrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Azoxystrobin		0.15			
		Trans-3-hexenoic acid		0.3125		
		3-Heptenoic acid		0.15625		
		Trans-2-nonenic acid		0.15625		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.3125		
1	Azoxystrobin	Trans-3-hexenoic acid	0.001875	0.078125	2	0.50
2	Azoxystrobin	3-Heptenoic acid	0.001875	0.019531	1	0.25
3	Azoxystrobin	Trans-2-nonenic acid	0.0375	0.039062	1	0.50
4	Azoxystrobin	3-Decenoic acid	0.001875	0.019531	1	0.38
5	Azoxystrobin	9-Decenoic acid	0.00375	0.039062	1	0.50

Table 29: Growth inhibition of *Fusarium oxysporum* by fludioxonil and cyprodinil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Fludioxonil		0.021			
	Cyprodinil		0.009			
		3-Heptenoic acid		0.15625		
		3-Decenoic acid		0.15625		
1	Fludioxonil	3-Heptenoic acid	0.039062	0.00525	7	0.50
2	Fludioxonil	3-Decenoic acid	0.039062	0.00525	7	0.50
3	Cyprodinil	3-Decenoic acid	0.00225	0.019531	9	0.38

Table 30: Growth inhibition of *Fusarium oxysporum* by difenoconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Difenoconazole		0.051			
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		3-Heptenoic acid		0.15625		
		Trans-2-octenoic acid		0.15625		
		3-Octenoic acid		0.15625		
		Trans-3-octenoic acid		0.15625		
		7-Octenoic acid		0.3125		
		Trans-2-nonenic acid		0.3125		

		Trans-2-decenoic acid		0.078125		
		9-Decenoic acid		0.15625		
1	Difenoconazole	Trans-3-hexenoic acid	0.006375	0.078125	12	0.38
2	Difenoconazole	4-Hexenoic acid	0.01275	0.15625	12	0.75
3	Difenoconazole	3-Heptenoic acid	0.006375	0.078125	12	0.63
4	Difenoconazole	Trans-2-octenoic acid	0.01275	0.039062	3	0.50
5	Difenoconazole	3-Octenoic acid	0.01275	0.019531	1.5	0.38
6	Difenoconazole	Trans-3-octenoic acid	0.01275	0.039062	3	0.50
7	Difenoconazole	7-Octenoic acid	0.01275	0.039062	3	0.50
8	Difenoconazole	Trans-2-nonenoic acid	0.01275	0.039062	3	0.38
9	Difenoconazole	Trans-2-decenoic acid	0.01275	0.019531	1.5	0.50
10	Difenoconazole	9-Decenoic acid	0.01275	0.039062	3	0.50

Table 31: Growth inhibition of *Fusarium oxysporum* by epoxiconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Epoxiconazole		0.03			
		Trans-3-hexenoic acid		0.15625		
		3-Heptenoic acid		0.15625		
		Trans-2-octenoic acid		0.15625		
		3-Octenoic acid		0.15625		
		3-Decenoic acid		0.078125		
1	Epoxiconazole	Trans-3-hexenoic acid	0.0075	0.078125	10	0.75
2	Epoxiconazole	3-Heptenoic acid	0.0075	0.039062	5	0.50
3	Epoxiconazole	Trans-2-octenoic acid	0.0075	0.039062	5	0.50
4	Epoxiconazole	3-Octenoic acid	0.0075	0.039062	5	0.50
5	Epoxiconazole	3-Decenoic acid	0.0075	0.039062	5	0.75

Table 32: Growth inhibition of *Fusarium oxysporum* by tebuconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Tebuconazole		0.225			
		Trans-2-octenoic acid		0.3125		
		3-Octenoic acid		0.15625		
		Trans-3-octenoic acid		0.15625		
		7-Octenoic acid		0.15625		
		Trans-2-nonenoic acid		0.3125		
		3-Nonenoic acid		0.15625		
		Trans-2-decenoic acid		0.15625		
		9-Decenoic acid		0.078125		

		Trans-2-undecenoic acid		0.15625		
1	Tebuconazole	Trans-2-octenoic acid	0.05625	0.039062	0.7	0.38
2	Tebuconazole	3-Octenoic acid	0.05625	0.019531	0.3	0.38
3	Tebuconazole	Trans-3-octenoic acid	0.05625	0.039062	0.7	0.50
4	Tebuconazole	7-Octenoic acid	0.05625	0.039062	0.7	0.50
5	Tebuconazole	Trans-2-nonenic acid	0.028125	0.019531	0.7	0.19
6	Tebuconazole	3-Nonenoic acid	0.05625	0.019531	0.3	0.38
7	Tebuconazole	Trans-2-decenoic acid	0.05625	0.019531	0.3	0.38
8	Tebuconazole	9-Decenoic acid	0.05625	0.039062	0.7	0.75
9	Tebuconazole	Trans-2-undecenoic acid	0.05625	0.019531	0.3	0.38

Example 12: Growth inhibition of *Sclerotinia sclerotiorum* by pyraclostrobin, azoxystrobin, chlorothalonil, fludioxonil, difenoconazole, propiconazole, epoxiconazole, and tebuconazole, in combination with various exemplary unsaturated aliphatic acids

Table 33: Growth inhibition of *Sclerotinia sclerotiorum* by pyraclostrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.0075			
		(2E,4E)-2,4-hexadienoic acid		0.125		
		Trans-2-hexenoic acid		0.15625		
		Trans-3-hexenoic acid		0.15625		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.078125		
		Trans-2-octenoic acid		0.039062		
		3-Octenoic acid		0.078125		
		Trans-3-octenoic acid		0.039062		
		7-Octenoic acid		0.039062		
		Trans-2-nonenic acid		0.019531		
		3-Nonenoic acid		0.019531		
		Trans-2-decenoic acid		0.019531		
		3-Decenoic acid		0.039062		
		9-Decenoic acid		0.039062		
		Trans-2-undecenoic acid		0.019531		
		(9Z)-octadecenoic acid		5.0		
1	Pyraclostrobin	(2E,4E)-2,4-hexadienoic acid	0.001875	0.015625	8	0.38
2	Pyraclostrobin	Trans-2-hexenoic acid	0.000937	0.009765	10	0.19
3	Pyraclostrobin	Trans-3-hexenoic acid	0.000937	0.019531	21	0.25
4	Pyraclostrobin	5-Hexenoic acid	0.000937	0.019531	21	0.25
5	Pyraclostrobin	3-Heptenoic acid	0.000937	0.009766	10	0.25

6	Pyraclostrobin	Trans-2-octenoic acid	0.000469	0.004882	10	0.19
7	Pyraclostrobin	3-Octenoic acid	0.000469	0.004882	10	0.13
8	Pyraclostrobin	Trans-3-octenoic acid	0.000469	0.004882	10	0.19
9	Pyraclostrobin	7-Octenoic acid	0.000469	0.004882	10	0.19
10	Pyraclostrobin	Trans-2-nonenoic acid	0.000469	0.004882	10	0.31
11	Pyraclostrobin	3-Nonenoic acid	0.000469	0.004882	10	0.31
12	Pyraclostrobin	Trans-2-decenoic acid	0.000937	0.002441	3	0.25
13	Pyraclostrobin	3-Decenoic acid	0.000234	0.002441	10	0.09
14	Pyraclostrobin	9-Decenoic acid	0.000469	0.004882	10	0.19
15	Pyraclostrobin	Trans-2-undecenoic acid	0.000469	0.004882	10	0.31
16	Pyraclostrobin	(9Z)-octadecenoic acid	0.00375	2.5	667	1.00

Table 34: Growth inhibition of *Sclerotinia sclerotiorum* by pyraclostrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.00375			
		Trans-3-hexenoic acid		0.15625		
		Cis-3-hexenoic acid		0.15625		
		Trans-2-decenoic acid		0.019531		
		Cis-2-decenoic acid		0.019531		
1	Pyraclostrobin	Trans-3-hexenoic acid	0.001875	0.039062	21	0.75
2	Pyraclostrobin	Cis-3-hexenoic acid	0.001875	0.039062	21	0.75
3	Pyraclostrobin	Trans-2-decenoic acid	0.0009375	0.002441	3	0.38
4	Pyraclostrobin	Cis-2-decenoic acid	0.0009375	0.002441	3	0.38

Table 35: Growth inhibition of *Sclerotinia sclerotiorum* by azoxystrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Azoxystrobin		0.15			
		Trans-3-hexenoic acid		0.15625		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.078125		
		3-Octenoic acid		0.039062		
		Trans-3-octenoic acid		0.039062		
		3-Nonenoic acid		0.039062		
		Trans-2-decenoic acid		0.009766		
		3-Decenoic acid		0.039062		
		9-Decenoic acid		0.039062		
1	Azoxystrobin	Trans-3-hexenoic acid	0.0375	0.039062	1	0.50

2	Azoxystrobin	5-Hexenoic acid	0.0375	0.039062	1	0.50
3	Azoxystrobin	3-Heptenoic acid	0.0375	0.019531	0.5	0.50
4	Azoxystrobin	3-Octenoic acid	0.0375	0.019531	0.5	0.75
5	Azoxystrobin	Trans-3-octenoic acid	0.01875	0.009766	0.5	0.38
6	Azoxystrobin	3-Nonenoic acid	0.0375	0.019531	0.5	0.75
7	Azoxystrobin	Trans-2-decenoic acid	0.0375	0.004882	0.1	0.75
8	Azoxystrobin	3-Decenoic acid	0.01875	0.009766	0.5	0.38
9	Azoxystrobin	9-Decenoic acid	0.01875	0.009766	0.5	0.38

Table 36: Growth inhibition of *Sclerotinia sclerotiorum* by chlorothalonil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Chlorothalonil		3.125x10 ⁻⁵			
		Trans-2-nonenoic acid		0.039062		
		3-Nonenoic acid		0.039062		
		9-Decenoic acid		0.039062		
1	Chlorothalonil	Trans-2-nonenoic acid	3.906x10 ⁻⁶	0.009766	2500	0.38
2	Chlorothalonil	3-Nonenoic acid	7.813x10 ⁻⁶	0.019531	2500	0.75
3	Chlorothalonil	9-Decenoic acid	7.813x10 ⁻⁶	0.019531	2500	0.75

Table 37: Growth inhibition of *Sclerotinia sclerotiorum* by fludioxonil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Fludioxonil		0.000164			
		Trans-2-octenoic acid		0.078125		
		3-Octenoic acid		0.078125		
		Trans-2-nonenoic acid		0.078125		
		3-Nonenoic acid		0.078125		
		Trans-2-decenoic acid		0.039062		
		9-Decenoic acid		0.15625		
1	Fludioxonil	Trans-2-octenoic acid	8.203x10 ⁻⁵	0.019531	238	0.75
2	Fludioxonil	3-Octenoic acid	8.203x10 ⁻⁵	0.019531	238	0.75
3	Fludioxonil	Trans-2-nonenoic acid	8.203x10 ⁻⁵	0.009766	119	0.63
4	Fludioxonil	3-Nonenoic acid	8.203x10 ⁻⁵	0.009766	119	0.63
5	Fludioxonil	Trans-2-decenoic acid	8.203x10 ⁻⁵	0.009766	119	0.75
6	Fludioxonil	9-Decenoic acid	8.203x10 ⁻⁵	0.019531	238	0.63

Table 38: Growth inhibition of *Sclerotinia sclerotiorum* by difenoconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Difenoconazole		0.0255			
		Trans-2-octenoic acid		0.078125		
		Trans-2-nonenoic acid		0.039062		
		3-Nonenoic acid		0.078125		
		Trans-2-decenoic acid		0.019531		
		3-decenoic acid		0.039062		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.039062		
1	Difenoconazole	Trans-2-octenoic acid	0.006375	0.019531	3.1	0.50
2	Difenoconazole	Trans-2-nonenoic acid	0.006375	0.009766	1.5	0.50
3	Difenoconazole	3-Nonenoic acid	0.006375	0.009766	1.5	0.38
4	Difenoconazole	Trans-2-decenoic acid	0.006375	0.009766	1.5	0.75
5	Difenoconazole	3-Decenoic acid	0.006375	0.019531	3.1	0.75
6	Difenoconazole	9-Decenoic acid	0.006375	0.019531	3.1	0.50
7	Difenoconazole	Trans-2-undecenoic acid	0.006375	0.009766	1.5	0.50

Table 39: Growth inhibition of *Sclerotinia sclerotiorum* by propiconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Propiconazole		0.089			
		3-Heptenoic acid		0.078125		
		Trans-2-nonenoic acid		0.019531		
		Trans-2-decenoic acid		0.019531		
		9-Decenoic acid		0.039062		
		Trans-2-undecenoic acid		0.039062		
1	Propiconazole	3-Heptenoic acid	0.02225	0.019531	0.9	0.50
2	Propiconazole	Trans-2-nonenoic acid	0.02225	0.009766	0.4	0.75
3	Propiconazole	Trans-2-decenoic acid	0.02225	0.009766	0.4	0.75
4	Propiconazole	9-Decenoic acid	0.02225	0.009766	0.9	0.38
5	Propiconazole	Trans-2-undecenoic acid	0.02225	0.009766	0.4	0.75

Table 40: Growth inhibition of *Sclerotinia sclerotiorum* by epoxiconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
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	Epoxiconazole		0.03			
		Trans-2-nonenic acid		0.019531		
		Trans-2-decenoic acid		0.019531		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
1	Epoxiconazole	Trans-2-nonenic acid	0.0075	0.009766	1.3	0.75
2	Epoxiconazole	Trans-2-decenoic acid	0.0075	0.009766	1.3	0.75
3	Epoxiconazole	3-Decenoic acid	0.0075	0.019531	2.6	0.50
4	Epoxiconazole	9-Decenoic acid	0.0075	0.019531	2.6	0.50

Table 41: Growth inhibition of *Sclerotinia sclerotiorum* by tebuconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Tebuconazole		0.1125			
		Trans-3-hexenoic acid		0.15625		
		3-Heptenoic acid		0.078125		
		Trans-2-nonenic acid		0.039062		
		3-Nonenoic acid		0.039062		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.039062		
1	Tebuconazole	Trans-3-hexenoic acid	0.05625	0.039062	0.7	0.75
2	Tebuconazole	3-Heptenoic acid	0.05625	0.019531	0.3	0.75
3	Tebuconazole	Trans-2-nonenic acid	0.028125	0.004882	0.2	0.38
4	Tebuconazole	3-Nonenoic acid	0.05625	0.009766	0.2	0.75
5	Tebuconazole	3-Decenoic acid	0.028125	0.009766	0.3	0.38
6	Tebuconazole	9-Decenoic acid	0.028125	0.009766	0.3	0.38
7	Tebuconazole	Trans-2-undecenoic acid	0.05625	0.009766	0.2	0.75

Table 42: Growth inhibition of *Sclerotinia sclerotiorum* by tebuconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Tebuconazole		0.1125			
		Trans-3-octanoic acid		0.039062		
		Trans-2-decenoic acid		0.019531		
1	Tebuconazole	Trans-3-octanoic acid	0.028125	0.019531	0.7	0.75
2	Tebuconazole	Trans-2-decenoic acid	0.028125	0.004882	0.2	0.50

Example 13: Growth inhibition of *Botrytis cinerea* by pyraclostrobin, azoxystrobin, chlorothalonil, cyprodinil, metalaxyl, epoxiconazole, and tebuconazole, in combination with various exemplary unsaturated aliphatic acids

Table 43: Growth inhibition of *Botrytis cinerea* by pyraclostrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.001875			
		(2E,4E)-2,4-hexadienoic acid		0.0625		
		Trans-2-hexenoic acid		0.078125		
		Trans-3-hexenoic acid		0.15625		
		4-Hexenoic acid		0.3125		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.078125		
		Trans-2-octenoic acid		0.039062		
		3-Octenoic acid		0.078125		
		7-Octenoic acid		0.078125		
		Trans-2-nonenoic acid		0.078125		
		3-Nonenoic acid		0.078125		
		Trans-2-decenoic acid		0.019531		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.15625		
		Trans-2-undecenoic acid		0.15625		
1	Pyraclostrobin	(2E,4E)-2,4-hexadienoic acid	0.000469	0.007812	17	0.38
2	Pyraclostrobin	Trans-2-hexenoic acid	0.000937	0.009766	10	0.63
3	Pyraclostrobin	Trans-3-hexenoic acid	0.000469	0.009766	21	0.31
4	Pyraclostrobin	4-Hexenoic acid	0.000937	0.019531	21	0.56
5	Pyraclostrobin	5-Hexenoic acid	0.000469	0.009766	21	0.31
6	Pyraclostrobin	3-Heptenoic acid	0.000469	0.004882	10	0.31
7	Pyraclostrobin	Trans-2-octenoic acid	0.000234	0.002441	10	0.19
8	Pyraclostrobin	3-Octenoic acid	0.000234	0.002441	10	0.16
9	Pyraclostrobin	Trans-3-octenoic acid	0.000469	0.004882	10	0.31
10	Pyraclostrobin	7-Octenoic acid	0.000469	0.004882	10	0.31
11	Pyraclostrobin	Trans-2-nonenoic acid	0.000469	0.004882	10	0.31
12	Pyraclostrobin	3-Nonenoic acid	0.000469	0.004882	10	0.31
13	Pyraclostrobin	Trans-2-decenoic acid	0.000469	0.004882	10	0.50
14	Pyraclostrobin	3-Decenoic acid	0.000234	0.004882	21	0.19
15	Pyraclostrobin	9-Decenoic acid	0.000234	0.002441	10	0.14
16	Pyraclostrobin	Trans-2-undecenoic acid	0.000937	0.009766	10	0.56

Table 44: Growth inhibition of *Botrytis cinerea* by pyraclostrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
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					Compound A	
	Pyraclostrobin		0.001875			
		(2E,4E)-2,4-hexadienoic acid		0.0625		
		Trans-2-hexenoic acid		0.039062		
		Trans-3-hexenoic acid		0.15625		
		5-Hexenoic acid		0.078125		
		3-Heptenoic acid		0.078125		
		Trans-2-octenoic acid		0.039062		
		3-Octenoic acid		0.078125		
		7-Octenoic acid		0.039062		
		Trans-2-nonenoic acid		0.039062		
		3-Nonenoic acid		0.078125		
		Trans-2-decenoic acid		0.078125		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.078125		
1	Pyraclostrobin	(2E,4E)-2,4-hexadienoic acid	0.000234	0.003906	17	0.19
2	Pyraclostrobin	Trans-2-hexenoic acid	0.000234	0.002441	10	0.19
3	Pyraclostrobin	Trans-3-hexenoic acid	0.000469	0.009766	21	0.31
4	Pyraclostrobin	5-Hexenoic acid	0.000469	0.009766	21	0.38
5	Pyraclostrobin	3-Heptenoic acid	0.000469	0.004882	10	0.19
6	Pyraclostrobin	Trans-2-octenoic acid	0.000234	0.002441	10	0.19
7	Pyraclostrobin	3-Octenoic acid	0.000469	0.004882	10	0.31
8	Pyraclostrobin	7-Octenoic acid	0.000234	0.002441	10	0.19
9	Pyraclostrobin	Trans-2-nonenoic acid	0.000234	0.002441	10	0.19
10	Pyraclostrobin	3-Nonenoic acid	0.000469	0.004882	10	0.31
11	Pyraclostrobin	Trans-2-decenoic acid	0.000234	0.002441	10	0.16
12	Pyraclostrobin	3-Decenoic acid	0.000234	0.004882	21	0.19
13	Pyraclostrobin	9-Decenoic acid	0.000234	0.002441	10	0.16
14	Pyraclostrobin	Trans-2-undecenoic acid	0.000234	0.002441	10	0.16

Table 45: Growth inhibition of *Botrytis cinerea* by azoxystrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Azoxystrobin		0.075			
		Trans-2-hexenoic acid		0.15625		
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		5-Hexenoic acid		0.3125		
		Trans-2-octenoic acid		0.078125		
		3-Octenoic acid		0.078125		
		Trans-3-octenoic acid		0.15625		

		7-Octenoic acid		0.15625		
		Trans-2-nonenoic acid		0.039062		
		3-Nonenoic acid		0.078125		
		Trans-2-decenoic acid		0.039062		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.078125		
1	Azoxystrobin	Trans-2-hexenoic acid	0.0375	0.039062	1	0.75
3	Azoxystrobin	Trans-3-hexenoic acid	0.0375	0.078125	2	0.75
4	Azoxystrobin	4-Hexenoic acid	0.0375	0.078125	2	0.75
5	Azoxystrobin	5-Hexenoic acid	0.0375	0.078125	2	0.75
6	Azoxystrobin	Trans-2-octenoic acid	0.009375	0.009766	1	0.25
7	Azoxystrobin	3-Octenoic acid	0.01875	0.019531	1	0.50
8	Azoxystrobin	Trans-3-octenoic acid	0.01875	0.019531	1	0.38
9	Azoxystrobin	7-Octenoic acid	0.01875	0.019531	1	0.38
10	Azoxystrobin	Trans-2-nonenoic acid	0.01875	0.019531	1	0.75
11	Azoxystrobin	3-Nonenoic acid	0.01875	0.019531	1	0.50
12	Azoxystrobin	Trans-2-decenoic acid	0.009375	0.009766	1	0.38
13	Azoxystrobin	3-Decenoic acid	0.009375	0.019531	2	0.38
14	Azoxystrobin	9-Decenoic acid	0.01875	0.019531	1	0.50
15	Azoxystrobin	Trans-2-undecenoic acid	0.01875	0.019531	1	0.50

Table 46: Growth inhibition of *Botrytis cinerea* by chlorothalonil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Chlorothalonil		1.758×10^{-5}			
		Trans-2-nonenoic acid		0.019531		
		9-Decenoic acid		0.039062		
1	Chlorothalonil	Trans-2-nonenoic acid	4.395×10^{-6}	0.004882	1111	0.50
2	Chlorothalonil	9-Decenoic acid	4.395×10^{-6}	0.019531	4444	0.75

Table 47: Growth inhibition of *Botrytis cinerea* by cyprodinil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Cyprodinil		0.0045			
		3-Heptenoic acid		0.078125		
		Trans-2-octenoic acid		0.078125		
		3-Octenoic acid		0.078125		
		7-Octenoic acid		0.078125		
		Trans-2-nonenoic acid		0.078125		

		3-Nonenoic acid		0.078125		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.078125		
1	Cyprodinil	3-Heptenoic acid	0.001125	0.039062	35	0.75
2	Cyprodinil	Trans-2-octenoic acid	0.001125	0.039062	35	0.75
3	Cyprodinil	3-Octenoic acid	0.001125	0.039062	35	0.75
4	Cyprodinil	7-Octenoic acid	0.000562	0.019531	35	0.38
5	Cyprodinil	Trans-2-nonenoic acid	0.001125	0.039062	35	0.75
6	Cyprodinil	3-Nonenoic acid	0.001125	0.039062	35	0.75
7	Cyprodinil	3-Decenoic acid	0.000562	0.039062	69	0.63
8	Cyprodinil	9-Decenoic acid	0.000562	0.019531	35	0.38
9	Cyprodinil	Trans-2-undecenoic acid	0.000562	0.019531	35	0.38

Table 48: Growth inhibition of *Botrytis cinerea* by metalaxyl, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Metalaxyl		0.316			
		3-Nonenoic acid		0.078125		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.078125		
1	Metalaxyl	3-Nonenoic acid	0.079	0.039062	0.5	0.75
2	Metalaxyl	9-Decenoic acid	0.079	0.039062	0.5	0.75
3	Metalaxyl	Trans-2-undecenoic acid	0.079	0.039062	0.5	0.75

Table 49: Growth inhibition of *Botrytis cinerea* by epoxiconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Epoxiconazole		0.03			
		3-Heptenoic acid		0.078125		
		Trans-2-octenoic acid		0.15625		
		3-Octenoic acid		0.078125		
		Trans-3-octenoic acid		0.078125		
		Trans-2-nonenoic acid		0.15625		
		3-Nonenoic acid		0.078125		
		Trans-2-decenoic acid		0.078125		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.15625		
		Trans-2-undecenoic acid		0.078125		
		(9Z)-octadecenoic acid		5.0		
1	Epoxiconazole	3-Heptenoic acid	0.0075	0.039062	5	0.75

2	Epoxiconazole	Trans-2-octenoic acid	0.0075	0.039062	5	0.50
3	Epoxiconazole	3-Octenoic acid	0.0075	0.039062	5	0.75
4	Epoxiconazole	Trans-3-octenoic acid	0.0075	0.039062	5	0.75
5	Epoxiconazole	Trans-2-nonenoic acid	0.00375	0.019531	5	0.25
6	Epoxiconazole	3-Nonenoic acid	0.00375	0.019531	5	0.38
7	Epoxiconazole	Trans-2-decenoic acid	0.00375	0.019531	5	0.38
8	Epoxiconazole	3-Decenoic acid	0.001875	0.019531	10	0.31
9	Epoxiconazole	9-Decenoic acid	0.00375	0.019531	5	0.25
10	Epoxiconazole	Trans-2-undecenoic acid	0.0075	0.039062	5	0.75
11	Epoxiconazole	(9Z)-octadecenoic acid	0.015	2.5	167	1.00

Table 50: Growth inhibition of *Botrytis cinerea* by tebuconazole, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Tebuconazole		0.1125			
		5-Hexenoic acid		0.15625		
		Trans-2-octenoic acid		0.039062		
		Trans-2-decenoic acid		0.039062		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.039062		
		Trans-2-undecenoic acid		0.039062		
		(9Z)-octadecenoic acid		5.0		
1	Tebuconazole	5-Hexenoic acid	0.028125	0.039062	1.4	0.50
2	Tebuconazole	Trans-2-octenoic acid	0.014062	0.009766	0.7	0.38
3	Tebuconazole	Trans-2-decenoic acid	0.028125	0.019531	0.7	0.75
4	Tebuconazole	3-Decenoic acid	0.028125	0.019531	0.7	0.50
5	Tebuconazole	9-Decenoic acid	0.014062	0.019531	1.4	0.63
6	Tebuconazole	Trans-2-undecenoic acid	0.028125	0.019531	0.7	0.75
7	Tebuconazole	(9Z)-octadecenoic acid	0.015	2.5	44	1.00

Example 14: Growth inhibition of *Fusarium oxysporum* by thyme oil, garlic oil, wintergreen oil, peppermint oil, spearmint oil, clove leaf oil, tea tree oil, oregano oil, nootkatone(+), and Fortune Aza Technical (also known as Fortune Azatech) azadirachtin extract, in combination with various exemplary saturated aliphatic acids.

Table 51: Growth inhibition of *Fusarium oxysporum* by thyme oil, in combination with various exemplary saturated aliphatic acids, observed following incubation for 24 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Thyme oil		0.625			
		Hexanoic acid		0.078125		

		Octanoic acid		0.15615		
		Decanoic acid		0.125		
		Dodecanoic acid		0.1		
1	Thyme oil	Hexanoic acid	0.15625	0.019531	0.13	0.50
2	Thyme oil	Octanoic acid	0.15625	0.039062	0.25	0.50
3	Thyme oil	Decanoic acid	0.15625	0.078125	0.50	0.88
4	Thyme oil	Dodecanoic acid	0.15625	0.0125	0.08	0.38

Table 52: Growth inhibition of *Fusarium oxysporum* by garlic oil, in combination with various exemplary saturated aliphatic acids, observed following incubation for 24 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Garlic oil		1.25			
		Hexanoic acid		0.15615		
		Octanoic acid		0.15615		
		Nonanoic acid		0.078125		
1	Garlic oil	Hexanoic acid	0.3125	0.039062	0.13	0.50
2	Garlic oil	Octanoic acid	0.3125	0.039062	0.13	0.50
3	Garlic oil	Nonanoic acid	0.3125	0.039062	0.13	0.75

Table 53: Growth inhibition of *Fusarium oxysporum* by wintergreen oil, in combination with various exemplary saturated aliphatic acids, observed following incubation for 24 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Wintergreen oil		5.0			
		Heptanoic acid		0.15615		
		Octanoic acid		0.15615		
		Nonanoic acid		0.15615		
		Decanoic acid		0.0625		
		Dodecanoic acid		0.1		
1	Wintergreen oil	Heptanoic acid	0.625	0.039062	0.06	0.38
2	Wintergreen oil	Octanoic acid	0.3125	0.039062	0.06	0.31
3	Wintergreen oil	Nonanoic acid	0.625	0.039062	0.06	0.38
4	Wintergreen oil	Decanoic acid	0.3125	0.007812	0.03	0.19
5	Wintergreen oil	Dodecanoic acid	1.25	0.05	0.04	0.75

Table 54: Growth inhibition of *Fusarium oxysporum* by peppermint oil, in combination with various exemplary saturated aliphatic acids, observed following incubation for 4 days

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
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	Peppermint oil		5.0			
		Hexanoic acid		0.15615		
		Heptanoic acid		0.3125		
		Octanoic acid		0.3125		
		Nonanoic acid		0.15615		
		Dodecanoic acid		0.1		
1	Peppermint oil	Hexanoic acid	1.25	0.039062	0.03	0.50
2	Peppermint oil	Heptanoic acid	1.25	0.039062	0.03	0.38
3	Peppermint oil	Octanoic acid	1.25	0.078125	0.06	0.50
4	Peppermint oil	Nonanoic acid	1.25	0.039062	0.03	0.50
5	Peppermint oil	Dodecanoic acid	0.625	0.0125	0.02	0.25

Table 55: Growth inhibition of *Fusarium oxysporum* by spearmint oil, in combination with various exemplary saturated aliphatic acids, observed following incubation for 4 days

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Spearmint oil		5.0			
		Heptanoic acid		0.15615		
		Octanoic acid		0.15615		
		Nonanoic acid		0.15615		
		Decanoic acid		0.0625		
2	Spearmint oil	Heptanoic acid	1.25	0.039062	0.03	0.38
3	Spearmint oil	Octanoic acid	1.25	0.039062	0.03	0.38
4	Spearmint oil	Nonanoic acid	1.25	0.039062	0.03	0.50
5	Spearmint oil	Decanoic acid	0.625	0.078125	0.13	0.19

Table 56: Growth inhibition of *Fusarium oxysporum* by clove leaf oil, in combination with various exemplary saturated aliphatic acids, observed following incubation for 4 days

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Clove leaf oil		0.625			
		Decanoic acid		0.0625		
1	Clove leaf oil	Decanoic acid	0.3125	0.015625	0.05	0.75

Table 57: Growth inhibition of *Fusarium oxysporum* by tea tree oil, in combination with various exemplary saturated aliphatic acids, observed following incubation for 4 days

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Tea tree oil		5.0			
		Decanoic acid		0.125		

1	Tea tree oil	Decanoic acid	1.25	0.03125	0.03	0.50
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Table 58: Growth inhibition of *Fusarium oxysporum* by oregano oil, in combination with various exemplary saturated aliphatic acids, observed following incubation for 4 days

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Oregano oil		2.5			
		Hexanoic acid		0.15615		
		Heptanoic acid		0.078125		
		Octanoic acid		0.15615		
		Nonanoic acid		0.078125		
		Dodecanoic acid		0.1		
1	Oregano oil	Hexanoic acid	0.078125	0.019531	0.25	0.16
2	Oregano oil	Heptanoic acid	0.15625	0.039062	0.25	0.56
3	Oregano oil	Octanoic acid	0.078125	0.019531	0.25	0.16
4	Oregano oil	Nonanoic acid	0.078125	0.019531	0.25	0.28
5	Oregano oil	Dodecanoic acid	0.15625	0.025	0.16	0.31

Table 59: Growth inhibition of *Fusarium oxysporum* by oregano oil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Oregano oil		1.25			
		Decanoic acid		0.125		
1	Oregano oil	Decanoic acid	0.15625	0.03125	0.20	0.38

Table 60: Growth inhibition of *Fusarium oxysporum* by nootkatone(+), in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Nootkatone (+)		0.5			
		Octanoic acid		0.15625		
1	Nootkatone (+)	Octanoic acid	0.125	0.039062	0.31	0.50

Table 61: Growth inhibition of *Fusarium oxysporum* by Fortune Aza Technical, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
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	Fortune Aza Technical		0.5			
		Octanoic acid		0.3125		
1	Fortune Aza Technical	Octanoic acid	0.125	0.078125	0.6	0.50

Example 15: Growth inhibition of *Sclerotinia sclerotiorum* by thyme oil, garlic oil, lemongrass oil, wintergreen oil, peppermint oil, spearmint oil, clove leaf oil, cinnamon leaf oil, rosemary oil, oregano oil, neem oil limonoid extract, and salannin, in combination with various exemplary saturated aliphatic acids.

Table 62: Growth inhibition of *Sclerotinia sclerotiorum* by thyme oil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Thyme oil		0.625			
		Hexanoic acid		0.078125		
		Heptanoic acid		0.039062		
		Octanoic acid		0.039062		
		Nonanoic acid		0.039062		
		Decanoic acid		0.015625		
		Dodecanoic acid		0.05		
1	Thyme oil	Hexanoic acid	0.3125	0.019531	0.06	0.75
2	Thyme oil	Heptanoic acid	0.3125	0.009766	0.03	0.75
3	Thyme oil	Octanoic acid	0.3125	0.009766	0.03	0.75
4	Thyme oil	Nonanoic acid	0.3125	0.009766	0.03	0.75
5	Thyme oil	Decanoic acid	0.3125	0.015625	0.01	0.75
6	Thyme oil	Dodecanoic acid	0.3125	0.0125	0.04	0.75

Table 63: Growth inhibition of *Sclerotinia sclerotiorum* by garlic oil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Garlic oil		0.625			
		Octanoic acid		0.039062		
1	Garlic oil	Octanoic acid	0.15625	0.004882	0.6	0.50

Table 64: Growth inhibition of *Sclerotinia sclerotiorum* by lemongrass oil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A)	MIC (B)	Ratio	FIC
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ation			(mg/mL)	(mg/mL)	Compound B/ Compound A	Index
	Lemongrass oil		1.25			
		Hexanoic acid		0.078125		
		Heptanoic acid		0.039062		
		Octanoic acid		0.039062		
		Nonanoic acid		0.039062		
		Decanoic acid		0.015625		
		Dodecanoic acid		0.05		
1	Lemongrass oil	Hexanoic acid	0.625	0.019531	0.03	0.75
2	Lemongrass oil	Heptanoic acid	0.625	0.009766	0.02	0.75
3	Lemongrass oil	Octanoic acid	0.625	0.009766	0.02	0.75
4	Lemongrass oil	Nonanoic acid	0.625	0.009766	0.02	0.75
5	Lemongrass oil	Decanoic acid	0.625	0.039062	0.01	0.75
6	Lemongrass oil	Dodecanoic acid	0.625	0.0125	0.02	0.75

Table 65: Growth inhibition of *Sclerotinia sclerotiorum* by wintergreen oil, in combination with various exemplary saturated aliphatic acids

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Wintergreen oil		5.0			
		Octanoic acid		0.039062		
		Nonanoic acid		0.039062		
1	Wintergreen oil	Octanoic acid	1.25	0.009766	0.01	0.50
2	Wintergreen oil	Nonanoic acid	1.25	0.009766	0.01	0.50

Table 66: Growth inhibition of *Sclerotinia sclerotiorum* by peppermint oil, in combination with various exemplary saturated aliphatic acids

Combin ation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Peppermint oil		5.0			
		Hexanoic acid		0.078125		
		Octanoic acid		0.039062		
		Nonanoic acid		0.039062		
1	Peppermint oil	Hexanoic acid	1.25	0.019531	0.02	0.50
2	Peppermint oil	Octanoic acid	1.25	0.009766	0.01	0.50
3	Peppermint oil	Nonanoic acid	1.25	0.004882	0.01	0.25

Table 67: Growth inhibition of *Sclerotinia sclerotiorum* by spearmint oil, in combination with various exemplary saturated aliphatic acids

Combin	Compound A	Compound B	MIC (A)	MIC (B)	Ratio	FIC
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ation			(mg/mL)	(mg/mL)	Compound B/ Compound A	Index
	Spearmint oil		2.5			
		Heptanoic acid		0.039062		
		Octanoic acid		0.039062		
		Nonanoic acid		0.039062		
1	Spearmint oil	Hexanoic acid	1.25	0.009766	0.01	0.75
2	Spearmint oil	Octanoic acid	1.25	0.009766	0.01	0.75
3	Spearmint oil	Nonanoic acid	1.25	0.009766	0.01	0.75

Table 68: Growth inhibition of *Sclerotinia sclerotiorum* by clove leaf oil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Clove leaf oil		1.25			
		Hexanoic acid		0.078125		
		Heptanoic acid		0.078125		
		Octanoic acid		0.078125		
		Nonanoic acid		0.078125		
		Dodecanoic acid		0.05		
1	Clove leaf oil	Hexanoic acid	0.3125	0.019531	0.06	0.50
2	Clove leaf oil	Heptanoic acid	0.3125	0.009766	0.03	0.38
3	Clove leaf oil	Octanoic acid	0.3125	0.009766	0.03	0.38
4	Clove leaf oil	Nonanoic acid	0.3125	0.009766	0.03	0.38
5	Clove leaf oil	Dodecanoic acid	0.3125	0.0125	0.04	0.50

Table 69: Growth inhibition of *Sclerotinia sclerotiorum* by cinnamon leaf oil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Cinnamon leaf oil		1.25			
		Octanoic acid		0.078125		
		Nonanoic acid		0.078125		
		Dodecanoic acid		0.05		
1	Cinnamon leaf oil	Octanoic acid	0.3125	0.009766	0.03	0.38
2	Cinnamon leaf oil	Nonanoic acid	0.3125	0.009766	0.03	0.38
3	Cinnamon leaf oil	Dodecanoic acid	0.3125	0.0125	0.04	0.50

Table 70: Growth inhibition of *Sclerotinia sclerotiorum* by rosemary oil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A)	MIC (B)	Ratio	FIC
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Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Rosemary oil		2.5			
		Hexanoic acid		0.078125		
		Heptanoic acid		0.078125		
		Octanoic acid		0.078125		
		Dodecanoic acid		0.05		
1	Rosemary oil	Hexanoic acid	1.25	0.019531	0.02	0.75
2	Rosemary oil	Heptanoic acid	1.25	0.009766	0.01	0.63
3	Rosemary oil	Octanoic acid	1.25	0.009766	0.01	0.63
4	Rosemary oil	Dodecanoic acid	1.25	0.0125	0.01	0.75

Table 71: Growth inhibition of *Sclerotinia sclerotiorum* by oregano oil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Oregano oil		0.625			
		Octanoic acid		0.078125		
		Nonanoic acid		0.078125		
		Decanoic acid		0.015625		
		Dodecanoic acid		0.05		
1	Oregano oil	Octanoic acid	0.15625	0.009766	0.06	0.38
2	Oregano oil	Nonanoic acid	0.15625	0.009766	0.06	0.38
3	Oregano oil	Decanoic acid	0.15625	0.0125	0.08	0.50
4	Oregano oil	Dodecanoic acid	0.15625	0.003906	0.03	0.50

Table 72: Growth inhibition of *Sclerotinia sclerotiorum* by neem oil limonoid extract, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Neem oil limonoid extract		0.5			
		Octanoic acid		0.039062		
1	Neem oil limonoid extract	Octanoic acid	0.03125	0.004882	0.16	0.19

Table 73: Growth inhibition of *Sclerotinia sclerotiorum* by salannin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Salannin		0.5			
		Octanoic acid		0.019531		

1	Salannin	Octanoic acid	0.025	0.009766	0.4	0.75
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Example 16: Growth inhibition of *Botrytis cinerea* by thyme oil, wintergreen oil, spearmint oil, rosemary oil, oregano oil, nootkatone(+), karanja oil flavonoid extract, Fortune Aza Technical, salannin, and neem oil limonoid extract, in combination with various exemplary saturated aliphatic acids.

Table 74: Growth inhibition of *Botrytis cinerea* by thyme oil, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 4 days

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Thyme oil		1.25			
		Hexanoic acid		0.3125		
		Heptanoic acid		0.15625		
		Octanoic acid		0.3125		
		Decanoic acid		0.5		
1	Thyme oil	Hexanoic acid	0.3125	0.078125	0.25	0.50
2	Thyme oil	Heptanoic acid	0.3125	0.039062	0.13	0.50
3	Thyme oil	Octanoic acid	0.3125	0.039062	0.13	0.38
4	Thyme oil	Decanoic acid	0.15625	0.015625	0.10	0.16

Table 75: Growth inhibition of *Botrytis cinerea* by wintergreen oil, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 24 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Wintergreen oil		0.625			
		Hexanoic acid		0.039062		
		Heptanoic acid		0.039062		
		Nonanoic acid		0.039062		
		Decanoic acid		0.03125		
1	Wintergreen oil	Hexanoic acid	0.3125	0.009766	0.03	0.75
2	Wintergreen oil	Heptanoic acid	0.3125	0.004882	0.02	0.63
3	Wintergreen oil	Nonanoic acid	0.3125	0.004882	0.02	0.63
4	Wintergreen oil	Decanoic acid	0.15625	0.039062	0.03	0.38

Table 76: Growth inhibition of *Botrytis cinerea* by spearmint oil, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 4 days

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
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	Spearmint oil		1.25			
		Hexanoic acid		0.3125		
		Heptanoic acid		0.078125		
		Octanoic acid		0.3125		
1	Spearmint oil	Hexanoic acid	0.625	0.039062	0.06	0.63
2	Spearmint oil	Heptanoic acid	0.625	0.019531	0.03	0.75
3	Spearmint oil	Octanoic acid	0.625	0.019531	0.03	0.56

Table 77: Growth inhibition of *Botrytis cinerea* by rosemary oil, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 48 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Rosemary oil		1.25			
		Hexanoic acid		0.15625		
		Octanoic acid		0.078125		
		Decanoic acid		0.0625		
		Dodecanoic acid		0.05		
1	Rosemary oil	Hexanoic acid	0.3125	0.039062	0.13	0.50
2	Rosemary oil	Octanoic acid	0.3125	0.019531	0.06	0.50
3	Rosemary oil	Decanoic acid	0.15625	0.015625	0.01	0.38
4	Rosemary oil	Dodecanoic acid	0.3125	0.0125	0.04	0.50

Table 78: Growth inhibition of *Botrytis cinerea* by oregano oil, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 24 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Oregano oil		0.15625			
		Hexanoic acid		0.15625		
		Heptanoic acid		0.078125		
		Octanoic acid		0.078125		
		Nonanoic acid		0.078125		
1	Oregano oil	Hexanoic acid	0.078125	0.019531	0.25	0.75
2	Oregano oil	Heptanoic acid	0.078125	0.009766	0.13	0.63
3	Oregano oil	Octanoic acid	0.078125	0.009766	0.13	0.63
4	Oregano oil	Nonanoic acid	0.078125	0.009766	0.13	0.63

Table 79: Growth inhibition of *Botrytis cinerea* by nootkatone(+), in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 48 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
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	Nootkatone (+)		0.125			
		Heptanoic acid		0.078125		
		Octanoic acid		0.15625		
		Nonanoic acid		0.078125		
		Decanoic acid		0.03125		
		Dodecanoic acid		0.05		
1	Nootkatone (+)	Heptanoic acid	0.0625	0.019531	0.31	0.75
2	Nootkatone (+)	Octanoic acid	0.0625	0.019531	0.31	0.63
3	Nootkatone (+)	Nonanoic acid	0.03125	0.009766	0.31	0.38
4	Nootkatone (+)	Decanoic acid	0.03125	0.015625	0.50	0.75
5	Nootkatone (+)	Dodecanoic acid	0.0625	0.125	0.20	0.75

Table 80: Growth inhibition of *Botrytis cinerea* by karanja oil flavonoid extract, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 48 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Karanja oil flavonoid extract		0.25			
		Octanoic acid		0.15625		
		Nonanoic acid		0.078125		
		Decanoic acid		0.03125		
		Dodecanoic acid		0.05		
1	Karanja oil flavonoid extract	Octanoic acid	0.0625	0.019531	0.31	0.38
2	Karanja oil flavonoid extract	Nonanoic acid	0.0625	0.019531	0.31	0.50
3	Karanja oil flavonoid extract	Decanoic acid	0.03125	0.015625	0.50	0.63
4	Karanja oil flavonoid extract	Dodecanoic acid	0.0625	0.0125	0.20	0.50

Table 81: Growth inhibition of *Botrytis cinerea* by Fortune Aza Technical, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 48 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Aza Technical		0.5			
		Octanoic acid		0.15625		
		Decanoic acid		0.03125		
		Dodecanoic acid		0.05		
1	Aza Technical	Octanoic acid	0.125	0.039062	0.31	0.50
2	Aza Technical	Decanoic acid	0.03125	0.015625	0.50	0.56
3	Aza Technical	Dodecanoic acid	0.0625	0.0125	0.20	0.38

Table 82: Growth inhibition of *Botrytis cinerea* by salannin, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 48 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Salannin		0.05			
		Decanoic acid		0.0625		
1	Salannin	Decanoic acid	0.0125	0.03125	3	0.75

Table 83: Growth inhibition of *Botrytis cinerea* by neem oil limonoid extract, in combination with various exemplary saturated aliphatic acids, observed following an incubation period of 24 hours

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Neem oil limonoid extract		0.5			
		Octanoic acid		0.15625		
		Decanoic acid		0.15625		
1	Neem oil limonoid extract	Octanoic acid	0.03125	0.019531	0.6	0.19
2	Neem oil limonoid extract	Decanoic acid	0.015625	0.078125	5.0	0.53

Example 17: Growth inhibition of *Fusarium oxysporum* by thyme oil, garlic oil, lemongrass oil, wintergreen oil, peppermint oil, spearmint oil, clove leaf oil, cinnamon leaf oil, tea tree oil, geranium oil, oregano oil, rosemary oil, and nootkatone(+), in combination with various exemplary unsaturated aliphatic acids.

Table 84: Growth inhibition of *Fusarium oxysporum* by thyme oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Thyme oil		1.25			
		(2E,4E)-2,4-hexadienoic acid		0.25		
		Trans-2-hexenoic acid		0.15625		
		Trans-3-hexenoic acid		0.3125		
		5-Hexenoic acid		0.3125		
		3-Heptenoic acid		0.15625		
		Trans-2-octenoic acid		0.078125		
		3-Octenoic acid		0.15625		
		Trans-3-octenoic acid		0.15625		
		7-Octenoic acid		0.15625		
		Trans-2-nonenoic acid		0.078125		
		3-Nonenoic acid		0.15625		
		3-Decenoic acid		0.15625		

		Trans-2-decenoic acid		0.078125		
		9-Decenoic acid		0.3125		
		Trans-2- undecenoic acid		0.15625		
1	Thyme oil	(2E,4E)-2,4-hexadienoic acid	0.3125	0.03125	0.10	0.38
2	Thyme oil	Trans-2-hexenoic acid	0.3125	0.078125	0.25	0.75
3	Thyme oil	Trans-3-hexenoic acid	0.15625	0.039062	0.25	0.25
4	Thyme oil	5-Hexenoic acid	0.15625	0.039062	0.25	0.25
5	Thyme oil	3-Heptenoic acid	0.3125	0.039062	0.13	0.50
6	Thyme oil	Trans-2-octenoic acid	0.3125	0.039062	0.13	0.75
7	Thyme oil	3-Octenoic acid	0.3125	0.039062	0.13	0.50
8	Thyme oil	Trans-3-octenoic acid	0.3125	0.039062	0.13	0.50
9	Thyme oil	7-Octenoic acid	0.3125	0.039062	0.13	0.50
10	Thyme oil	Trans-2-nonenoic acid	0.3125	0.039062	0.13	0.75
11	Thyme oil	3-Nonenoic acid	0.3125	0.039062	0.13	0.50
12	Thyme oil	Trans-2-decenoic acid	0.3125	0.039062	0.06	0.50
13	Thyme oil	3-Decenoic acid	0.15625	0.019531	0.13	0.25
14	Thyme oil	9-Decenoic acid	0.3125	0.039062	0.13	0.38
15	Thyme oil	Trans-2- undecenoic acid	0.3125	0.078125	0.25	0.75

Table 85: Growth inhibition of *Fusarium oxysporum* by thyme oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Thyme oil		0.625			
		4-Hexenoic acid		0.3125		
	Thyme oil	4-Hexenoic acid	0.078125	0.039062	0.13	0.25

Table 86: Growth inhibition of *Fusarium oxysporum* by garlic oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Garlic oil		2.5			
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		3-Heptenoic acid		0.15625		
1	Garlic oil	Trans-3-hexenoic acid	0.3125	0.15625	0.5	0.63
2	Garlic oil	4-Hexenoic acid	0.3125	0.15625	0.5	0.63
3	Garlic oil	3-Heptenoic acid	0.15625	0.078125	0.5	0.56

Table 87: Growth inhibition of *Fusarium oxysporum* by lemongrass oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Lemongrass oil		1.25			
		Trans-2-hexenoic acid		0.15625		
		3-Octenoic acid		0.15625		
1	Lemongrass oil	Trans-2-hexenoic acid	0.3125	0.078125	0.25	0.75
2	Lemongrass oil	3-Octenoic acid	0.3125	0.039062	0.13	0.50

Table 88: Growth inhibition of *Fusarium oxysporum* by wintergreen oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Wintergreen oil		10			
		Trans-3-hexenoic acid		0.3125		
		3-Decenoic acid		0.15625		
1	Wintergreen oil	Trans-3-hexenoic acid	0.625	0.15625	0.25	0.56
2	Wintergreen oil	3-Decenoic acid	0.625	0.078125	0.13	0.56

Table 89: Growth inhibition of *Fusarium oxysporum* by peppermint oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Peppermint oil		5.0			
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		3-Decenoic acid		0.15625		
1	Peppermint oil	Trans-3-hexenoic acid	1.25	0.15625	0.13	0.75
2	Peppermint oil	4-Hexenoic acid	1.25	0.15625	0.13	0.75
3	Peppermint oil	3-Decenoic acid	1.25	0.078125	0.06	0.75

Table 90: Growth inhibition of *Fusarium oxysporum* by spearmint oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Spearmint oil		5.0			
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		5-Hexenoic acid		0.15625		
		Trans-2-nonenoic acid		0.15625		

		3-Decenoic acid		0.15625		
		9-Decenoic acid		0.3125		
1	Spearmint oil	Trans-3-hexenoic acid	1.25	0.15625	0.13	0.75
2	Spearmint oil	4-Hexenoic acid	1.25	0.15625	0.13	0.75
3	Spearmint oil	5-Hexenoic acid	1.25	0.039062	0.03	0.50
4	Spearmint oil	Trans-2-nonenoic acid	1.25	0.039062	0.03	0.50
5	Spearmint oil	3-Decenoic acid	1.25	0.078125	0.06	0.75
6	Spearmint oil	9-Decenoic acid	1.25	0.039062	0.03	0.38

Table 91: Growth inhibition of *Fusarium oxysporum* by clove leaf oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Clove leaf oil		1.25			
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		7-Octenoic acid		0.3125		
		Trans-2-nonenoic acid		0.3125		
		Trans-2-decenoic acid		0.15625		
		3-Decenoic acid		0.3125		
1	Clove leaf oil	Trans-3-hexenoic acid	0.3125	0.15625	0.50	0.75
2	Clove leaf oil	4-Hexenoic acid	0.3125	0.15625	0.50	0.75
3	Clove leaf oil	7-Octenoic acid	0.3125	0.039062	0.13	0.38
4	Clove leaf oil	Trans-2-nonenoic acid	0.3125	0.039062	0.06	0.38
5	Clove leaf oil	Trans-2-decenoic acid	0.3125	0.019531	0.06	0.38
6	Clove leaf oil	3-Decenoic acid	0.3125	0.078125	0.25	0.50

Table 92: Growth inhibition of *Fusarium oxysporum* by cinnamon leaf oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Cinnamon leaf oil		1.25			
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		5-Hexenoic acid		0.3125		
		Trans-2-octenoic acid		0.15625		
		Trans-3-octenoic acid		0.15625		
		7-Octenoic acid		0.3125		
		3-Decenoic acid		0.3125		
1	Cinnamon leaf oil	Trans-3-hexenoic acid	0.3125	0.15625	0.50	0.75
2	Cinnamon leaf oil	4-Hexenoic acid	0.3125	0.15625	0.50	0.75
3	Cinnamon leaf oil	5-Hexenoic acid	0.3125	0.039062	0.13	0.38
4	Cinnamon leaf oil	Trans-2-octenoic acid	0.3125	0.039062	0.13	0.50

5	Cinnamon leaf oil	Trans-3-octenoic acid	0.3125	0.039062	0.13	0.50
6	Cinnamon leaf oil	7-Octenoic acid	0.3125	0.039062	0.13	0.38
7	Cinnamon leaf oil	3-Decenoic acid	0.3125	0.078125	0.25	0.50

Table 93: Growth inhibition of *Fusarium oxysporum* by tea tree oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Tea tree oil		5.0			
		Trans-3-hexenoic acid		0.3125		
1	Tea tree oil	Trans-3-hexenoic acid	0.625	0.15625	0.25	0.63

Table 94: Growth inhibition of *Fusarium oxysporum* by geranium oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Tea tree oil		2.5			
		4-Hexenoic acid		0.3125		
1	Tea tree oil	4-Hexenoic acid	0.625	0.15625	0.25	0.75

Table 95: Growth inhibition of *Fusarium oxysporum* by oregano oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Oregano oil		1.25			
		3-Heptenoic acid		0.15625		
		3-Nonenoic acid		0.15625		
		3-Decenoic acid		0.15625		
		9-Decenoic acid				
1	Oregano oil	3-Heptenoic acid	0.078125	0.078125	1.00	0.56
2	Oregano oil	3-Nonenoic acid	0.15625	0.019531	0.13	0.25
3	Oregano oil	3-Decenoic acid	0.15625	0.078125	0.50	0.63
4	Oregano oil	9-Decenoic acid	0.15625	0.039062	0.25	0.25

Table 96: Growth inhibition of *Fusarium oxysporum* by oregano oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
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	Oregano oil		1.25			
		Trans-2-hexenoic acid		0.3125		
		Trans-3-hexenoic acid		0.15625		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.15625		
		3-Octenoic acid		0.15625		
		7-Octenoic acid		0.15625		
		Trans-2-Decenoic acid		0.078125		
		Trans-2-undecenoic acid				
1	Oregano oil	Trans-2-hexenoic acid	0.15625	0.039062	0.25	0.25
2	Oregano oil	Trans-3-hexenoic acid	0.3125	0.078125	0.25	0.75
3	Oregano oil	5-Hexenoic acid	0.3125	0.078125	0.25	0.75
4	Oregano oil	3-Heptenoic acid	0.3125	0.039062	0.13	0.50
5	Oregano oil	3-Octenoic acid	0.3125	0.039062	0.13	0.50
6	Oregano oil	7-Octenoic acid	0.3125	0.039062	0.13	0.50
7	Oregano oil	Trans-2-Decenoic acid	0.3125	0.019531	0.06	0.50
8	Oregano oil	Trans-2-undecenoic acid	0.3125	0.078125	0.25	0.75

Table 97: Growth inhibition of *Fusarium oxysporum* by rosemary oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Rosemary oil		5.0			
		Trans-3-hexenoic acid		0.3125		
		4-Hexenoic acid		0.3125		
		Trans-2-octenoic acid		0.078125		
		3-Decenoic acid		0.15625		
1	Rosemary oil	Trans-3-hexenoic acid	0.625	0.15625	0.25	0.63
2	Rosemary oil	4-Hexenoic acid	0.625	0.15625	0.25	0.63
3	Rosemary oil	Trans-2-octenoic acid	0.625	0.039062	0.06	0.63
4	Rosemary oil	3-Decenoic acid	0.625	0.078125	0.13	0.63

Table 98: Growth inhibition of *Fusarium oxysporum* by nootkatone(+), in combination with various an exemplary unsaturated aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Nootkatone (+)		0.5			
		3-Decenoic acid		0.15625		
1	Nootkatone (+)	3-Decenoic acid	0.0625	0.078125	1.3	0.63

Example 18: Growth inhibition of *Sclerotinia sclerotiorum* by thyme oil, garlic oil, lemongrass oil, wintergreen oil, peppermint oil, spearmint oil, clove leaf oil, Fortune Aza Technical azadirachtin extract, and oregano oil, in combination with various exemplary unsaturated aliphatic acids.

Table 99: Growth inhibition of *Sclerotinia sclerotiorum* by thyme oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Thyme oil		0.625			
		Trans-3-hexenoic acid		0.15625		
		4-Hexenoic acid		0.15625		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.078125		
		Trans-3-octenoic acid		0.078125		
		7-Octenoic acid		0.039062		
		3-Nonenoic acid		0.078125		
		3-Decenoic acid		0.039062		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.078125		
1	Thyme oil	Trans-3-hexenoic acid	0.3125	0.039062	0.13	0.75
2	Thyme oil	4-Hexenoic acid	0.3125	0.039062	0.13	0.75
3	Thyme oil	5-Hexenoic acid	0.3125	0.039062	0.13	0.75
4	Thyme oil	3-Heptenoic acid	0.3125	0.019531	0.06	0.75
5	Thyme oil	Trans-3-octenoic acid	0.3125	0.009766	0.03	0.63
6	Thyme oil	7-Octenoic acid	0.3125	0.009766	0.03	0.75
7	Thyme oil	3-Nonenoic acid	0.15625	0.004882	0.03	0.31
8	Thyme oil	3-Decenoic acid	0.15625	0.009766	0.06	0.50
9	Thyme oil	9-Decenoic acid	0.15625	0.009766	0.06	0.38
10	Thyme oil	Trans-2-undecenoic acid	0.3125	0.009766	0.03	0.63

Table 100: Growth inhibition of *Sclerotinia sclerotiorum* by garlic oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Garlic oil		0.625			
		Trans-3-hexenoic acid		0.15625		
		4-Hexenoic acid		0.15625		
		Trans-2-octenoic acid		0.039062		
		3-Octenoic acid		0.078125		
		7-Octenoic acid		0.078125		
		3-Nonenoic acid		0.078125		

		Trans-2-decenoic acid		0.039062		
		9-Decenoic acid		0.078125		
1	Garlic oil	Trans-3-hexenoic acid	0.3125	0.039062	0.13	0.75
2	Garlic oil	4-Hexenoic acid	0.3125	0.039062	0.13	0.75
3	Garlic oil	Trans-2-octenoic acid	0.15625	0.009766	0.06	0.50
4	Garlic oil	3-Octenoic acid	0.3125	0.019531	0.06	0.75
5	Garlic oil	7-Octenoic acid	0.3125	0.009766	0.03	0.63
6	Garlic oil	3-Nonenoic acid	0.3125	0.009766	0.03	0.63
7	Garlic oil	Trans-2-decenoic acid	0.3125	0.009766	0.03	0.75
8	Garlic oil	9-Decenoic acid	0.3125	0.019531	0.06	0.75

Table 101: Growth inhibition of *Sclerotinia sclerotiorum* by lemongrass oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Lemongrass oil		0.625			
		(2E,4E)-2,4-hexadienoic acid		0.0625		
		Trans-2-hexenoic acid		0.078125		
		Trans-3-hexenoic acid		0.15625		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.078125		
		Trans-2-octenoic acid		0.039062		
		3-Octenoic acid		0.039062		
		Trans-3-octenoic acid		0.039062		
		7-Octenoic acid		0.039062		
		3-Nonenoic acid		0.039062		
		9-Decenoic acid		0.039062		
1	Lemongrass oil	(2E,4E)-2,4-hexadienoic acid	0.3125	0.015625	0.05	0.75
2	Lemongrass oil	Trans-2-hexenoic acid	0.3125	0.009766	0.03	0.63
3	Lemongrass oil	Trans-3-hexenoic acid	0.3125	0.019531	0.06	0.63
4	Lemongrass oil	5-Hexenoic acid	0.3125	0.019531	0.06	0.63
5	Lemongrass oil	3-Heptenoic acid	0.3125	0.009766	0.03	0.63
6	Lemongrass oil	Trans-2-octenoic acid	0.3125	0.009766	0.03	0.75
7	Lemongrass oil	3-Octenoic acid	0.3125	0.009766	0.03	0.75
8	Lemongrass oil	Trans-3-octenoic acid	0.3125	0.004882	0.02	0.63
9	Lemongrass oil	7-Octenoic acid	0.3125	0.004882	0.02	0.63
10	Lemongrass oil	3-Nonenoic acid	0.3125	0.004882	0.02	0.63
11	Lemongrass oil	9-Decenoic acid	0.3125	0.009766	0.03	0.75

Table 102: Growth inhibition of *Sclerotinia sclerotiorum* by wintergreen oil, in combination with various exemplary unsaturated aliphatic acids

Combi	Compound A	Compound B	MIC (A)	MIC (B)	Ratio	FIC
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nation			(mg/mL)	(mg/mL)	Compound B/ Compound A	Index
	Wintergreen oil		10			
		Trans-2-octenoic acid		0.039062		
		9-Decenoic acid		0.039062		
6	Wintergreen oil	Trans-2-octenoic acid	1.25	0.019531	0.02	0.63
11	Wintergreen oil	9-Decenoic acid	1.25	0.019531	0.02	0.63

Table 103: Growth inhibition of *Sclerotinia sclerotiorum* by peppermint oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Peppermint oil		2.5			
		Trans-3-hexenoic acid		0.3125		
		5-Hexenoic acid		0.15625		
		3-Octenoic acid		0.078125		
		3-Nonenoic acid		0.078125		
		9-Decenoic acid		0.039062		
1	Peppermint oil	Trans-3-hexenoic acid	1.25	0.039062	0.03	0.63
2	Peppermint oil	5-Hexenoic acid	1.25	0.039062	0.03	0.75
3	Peppermint oil	3-Octenoic acid	1.25	0.019531	0.02	0.75
4	Peppermint oil	3-Nonenoic acid	1.25	0.009766	0.01	0.63
5	Peppermint oil	9-Decenoic acid	0.625	0.009766	0.02	0.50

Table 104: Growth inhibition of *Sclerotinia sclerotiorum* by spearmint oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Spearmint oil		2.5			
		Trans-2-hexenoic acid		0.078125		
		Trans-3-hexenoic acid		0.15625		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.078125		
		Trans-2-octenoic acid		0.078125		
		3-Octenoic acid		0.15625		
		7-Octenoic acid		0.078125		
		Trans-2-nonenoic acid		0.039062		
		3-Nonenoic acid		0.15625		
		3-Decenoic acid		0.039062		
		9-Decenoic acid		0.078125		
1	Spearmint oil	Trans-2-hexenoic acid	1.25	0.019531	0.02	0.75
2	Spearmint oil	Trans-3-hexenoic acid	1.25	0.039062	0.03	0.75
3	Spearmint oil	5-Hexenoic acid	1.25	0.039062	0.03	0.75

4	Spearmint oil	3-Heptenoic acid	1.25	0.019531	0.02	0.75
5	Spearmint oil	Trans-2-octenoic acid	1.25	0.019531	0.02	0.75
6	Spearmint oil	3-Octenoic acid	1.25	0.019531	0.02	0.63
7	Spearmint oil	7-Octenoic acid	1.25	0.009766	0.01	0.63
8	Spearmint oil	Trans-2-nonenoic acid	1.25	0.009766	0.01	0.75
9	Spearmint oil	3-Nonenoic acid	1.25	0.009766	0.01	0.56
10	Spearmint oil	3-Decenoic acid	1.25	0.019531	0.02	0.75
11	Spearmint oil	9-Decenoic acid	1.25	0.019531	0.02	0.75

Table 105: Growth inhibition of *Sclerotinia sclerotiorum* by clove leaf oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Clove leaf oil		2.5			
		3-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.15625		
1	Clove leaf oil	3-Decenoic acid	0.3125	0.019531	0.06	0.38
2	Clove leaf oil	Trans-2-undecenoic acid	0.3125	0.019531	0.06	0.25

Table 106: Growth inhibition of *Sclerotinia sclerotiorum* by Fortune Aza Technical, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Aza Technical		0.5			
		Trans-2-undecenoic acid		0.078125		
1	Aza Technical	Trans-2-undecenoic acid	0.125	0.019531	0.16	0.50

Table 107: Growth inhibition of *Sclerotinia sclerotiorum* by oregano oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Oregano oil		0.625			
		(2E,4E)-2,4-hexadienoic acid		0.125		
		Trans-2-hexenoic acid		0.078125		
		Trans-3-hexenoic acid		0.15625		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.15625		
		Trans-2-octenoic acid		0.039062		
		3-Octenoic acid		0.039062		

		Trans-3-octenoic acid		0.039062		
		7-Octenoic acid		0.039062		
		Trans-2-nonenoic acid		0.039062		
		3-Nonenoic acid		0.039062		
		3-Decenoic acid		0.039062		
		9-Decenoic acid		0.039062		
1	Oregano oil	(2E,4E)-2,4-hexadienoic acid	0.15625	0.015625	0.10	0.38
2	Oregano oil	Trans-2-hexenoic acid	0.15625	0.019531	0.13	0.50
3	Oregano oil	Trans-3-hexenoic acid	0.15625	0.039062	0.25	0.50
4	Oregano oil	5-Hexenoic acid	0.15625	0.039062	0.25	0.50
5	Oregano oil	3-Heptenoic acid	0.15625	0.019531	0.13	0.38
6	Oregano oil	Trans-2-octenoic acid	0.15625	0.019531	0.13	0.75
7	Oregano oil	3-Octenoic acid	0.15625	0.019531	0.13	0.75
8	Oregano oil	Trans-3-octenoic acid	0.15625	0.019531	0.13	0.75
9	Oregano oil	7-Octenoic acid	0.15625	0.019531	0.13	0.75
10	Oregano oil	Trans-2-nonenoic acid	0.078125	0.009766	0.13	0.38
11	Oregano oil	3-Nonenoic acid	0.15625	0.019531	0.13	0.75
12	Oregano oil	3-Decenoic acid	0.078125	0.009766	0.13	0.38
13	Oregano oil	9-Decenoic acid	0.078125	0.009766	0.13	0.38

Example 19: Growth inhibition of *Botrytis cinerea* by oregano oil, nootkatone(+), spearmint oil, rosemary oil, thyme oil, salannin, karanja oil flavonoid extract, and neem oil limonoid extract, in combination with various exemplary unsaturated aliphatic acids.

Table 108: Growth inhibition of *Botrytis cinerea* by oregano oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Oregano oil		0.625			
		Trans-2-decenoic acid		0.039062		
		3-Decenoic acid		0.039062		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.039062		
1	Oregano oil	Trans-2-decenoic acid	0.078125	0.019531	0.25	0.63
2	Oregano oil	3-Decenoic acid	0.078125	0.019531	0.25	0.63
3	Oregano oil	9-Decenoic acid	0.078125	0.039062	0.50	0.63
4	Oregano oil	Trans-2-undecenoic acid	0.078125	0.019531	0.25	0.63

Table 109: Growth inhibition of *Botrytis cinerea* by nootkatone(+), in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A)	MIC (B)	Ratio	FIC
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Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Nootkatone(+)		0.125			
		Trans-2-decenoic acid		0.039062		
		9-Decenoic acid		0.078125		
1	Nootkatone(+)	Trans-2-decenoic acid	0.03125	0.019531	0.63	0.75
2	Nootkatone(+)	9-Decenoic acid	0.015625	0.019531	1.25	0.63

Table 110: Growth inhibition of *Botrytis cinerea* by spearmint oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Spearmint oil		2.5			
		(2E,4E)-2,4-hexadienoic acid		0.125		
		Trans-2-hexenoic acid		0.15625		
		Trans-3-hexenoic acid		0.15625		
		5-Hexenoic acid		0.15625		
		Trans-2-octenoic acid		0.078125		
		7-Octenoic acid		0.15625		
		Trans-2-decenoic acid		0.039062		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
1	Spearmint oil	(2E,4E)-2,4-hexadienoic acid	0.625	0.0625	0.10	0.75
2	Spearmint oil	Trans-2-hexenoic acid	0.625	0.019531	0.03	0.38
3	Spearmint oil	Trans-3-hexenoic acid	0.625	0.039062	0.06	0.50
4	Spearmint oil	5-Hexenoic acid	0.625	0.039062	0.06	0.50
5	Spearmint oil	Trans-2-octenoic acid	0.625	0.019531	0.03	0.50
6	Spearmint oil	7-Octenoic acid	0.625	0.019531	0.03	0.38
7	Spearmint oil	Trans-2-decenoic acid	0.625	0.019531	0.03	0.75
8	Spearmint oil	3-Decenoic acid	0.625	0.019531	0.03	0.50
9	Spearmint oil	9-Decenoic acid	0.625	0.039062	0.06	0.75

Table 111: Growth inhibition of *Botrytis cinerea* by rosemary oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Rosemary oil		5			
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
1	Rosemary oil	3-Decenoic acid	0.3125	0.019531	0.06	0.31
2	Rosemary oil	9-Decenoic acid	0.3125	0.039062	0.13	0.56

Table 112: Growth inhibition of *Botrytis cinerea* by thyme oil, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Thyme oil		0.625			
		Trans-2-octenoic acid		0.039062		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
1	Thyme oil	Trans-2-octenoic acid	0.078125	0.019531	0.25	0.63
2	Thyme oil	3-Decenoic acid	0.078125	0.019531	0.25	0.63
3	Thyme oil	9-Decenoic acid	0.078125	0.039062	0.50	0.63

Table 113: Growth inhibition of *Botrytis cinerea* by salannin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Salannin		0.05			
		9-Decenoic acid		0.078125		
1	Salannin	9-Decenoic acid	0.0125	0.039062	3	0.75

Table 114: Growth inhibition of *Botrytis cinerea* by karanja oil flavonoid extract, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Karanja oil flavonoid extract		0.5			
		Trans-2 decenoic acid		0.039062		
		9-Decenoic acid		0.078125		
1	Karanja oil flavonoid extract	Trans-2 decenoic acid	0.0125	0.019531	0.16	0.75
2	Karanja oil flavonoid extract	9-Decenoic acid	0.0625	0.019531	0.31	0.38

Table 115: Growth inhibition of *Botrytis cinerea* by neem oil limonoid extract, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
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	Neem oil limonoid extract		0.5			
		9-Decenoic acid		0.078125		
1	Neem oil limonoid extract	9-Decenoic acid	0.125	0.039062	0.31	0.75

Example 20: In-vitro insecticidal efficacy against *Trichoplusia ni* by chlorfenapyr (active ingredient in Pylon® insecticide), in combination with various exemplary unsaturated aliphatic acids (and agriculturally acceptable salts thereof)

Table 116: Expected and Observed Efficacy (%) at 0.05 mg/mL Unsaturated Aliphatic Acid (salt) Concentration

Treatment	72hr Exp.	72hr Obs.	72hr Synergy Factor	90hr Exp.	90hr Obs.	90hr Synergy Factor	120hr Exp.	120hr Obs.	120hr Synergy Factor
Pylon®	-	4	-	-	4	-	-	4	-
2,4-hexenoic acid-Ksalt	-	4	-	-	4	-	-	4	-
Trans-2-hexenoic acid	-	0	-	-	0	-	-	0	-
Trans-3-hexenoic acid	-	0	-	-	0	-	-	0	-
Pylon® x 2,4-hex acid K-salt	8	62	8	8	100	12	8	100	12
Pylon® x Trans-2-hex. acid	4	46	11	4	96	23	4	100	24
Pylon® x Trans-3-hex. acid	4	46	11	4	100	24	4	100	24

Table 117: Expected and Observed Efficacy (%) at 0.15 mg/mL Unsaturated Aliphatic Acid (salt) Concentration

Treatment	72hr Exp.	72hr Obs.	72hr Synergy Factor	90hr Exp.	90hr Obs.	90hr Synergy Factor	120hr Exp.	120hr Obs.	120hr Synergy Factor
Pylon®	-	4	-	-	4	-	-	4	-
2,4-hexenoic acid-Ksalt	-	4	-	-	4	-	-	4	-
Trans-2-hexenoic acid	-	0	-	-	0	-	-	0	-
Trans-3-hexenoic acid	-	0	-	-	4	-	-	4	-
Pylon® x 2,4-hex acid K-salt	4	67	16	4	96	23	4	96	12
Pylon® x Trans-2-hex. acid	4	50	12	4	75	18	4	79	19

Pylon® x Trans-3-hex. acid	4	50	12	8	83	10	8	96	12
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Table 118: Expected and Observed Efficacy (%) at 0.30 mg/mL Unsaturated Aliphatic Acid (salt) Concentration

Treatment	72hr Exp.	72hr Obs.	72hr Synergy Factor	90hr Exp.	90hr Obs.	90hr Synergy Factor	120hr Exp.	120hr Obs.	120hr Synergy Factor
Pylon®	-	4	-	-	4	-	-	4	-
2,4-hexenoic acid-Ksalt	-	13	-	-	13	-	-	4	-
Trans-2-hexenoic acid	-	0	-	-	0	-	-	0	-
Trans-3-hexenoic acid	-	4	-	-	4	-	-	0	-
Pylon® x 2,4-hex acid K-salt	16	58	4	16	92	6	16	92	6
Pylon® x Trans-2-hex. acid	8	67	8	8	100	12	4	100	24
Pylon® x Trans-3-hex. acid	8	50	6	8	96	12	4	100	24

Example 21: In-planta insecticidal efficacy against *Trichoplusia ni* by chlorfenapyr (active ingredient in Pylon® insecticide), in combination with various exemplary unsaturated aliphatic acids (and agriculturally acceptable salts thereof)

Table 119: Expected and Observed Efficacy (%) in-planta against *Trichoplusia ni* at 0.187 mg/mL Pylon® and 0.06 mg/mL exemplary unsaturated aliphatic acid (and salt) concentrations, after 48 hours

Treatment	Observed Efficacy (%)	Expected Efficacy (%)	Synergy Factor
Pylon	87	-	-
2,4-hexadienoic acid, K-salt	13	-	-
Trans-2-hexenoic acid	0	-	-
Pylon x 2,4-hexadienoic acid, K-salt	100	88	1.14
Pylon x Trans-2-hexenoic acid	100	87	1.15

Table 120: Expected and Observed Efficacy (%) in-planta against *Trichoplusia ni* at 0.187 mg/mL Pylon® and 0.06 mg/mL exemplary unsaturated aliphatic acid (and salt) concentrations, after 72 hours

Treatment	Observed Efficacy (%)	Expected Efficacy (%)	Synergy Factor
Pylon	80	-	-
2,4-hexadienoic acid, K-salt	0	-	-
Trans-2-hexenoic acid	0	-	-
Pylon x 2,4-hexadienoic acid, K-salt	100	80	1.25
Pylon x Trans-2-hexenoic acid	100	81	1.23

EXAMPLES FROM SPECIFICATION OF PCT/CA2019/051383

Table 10: Growth inhibition of *Fusarium oxysporum* by pyraclostrobin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.015			
		Hexanoic acid		0.15625		
		Heptanoic acid		0.15625		
		Octanoic acid		0.15625		
		Nonanoic acid		0.15625		
		Decanoic acid		0.125		
		Dodecanoic acid		0.1		
		3-Hydroxybutyric acid		10		
		3-Hydroxydecanoic acid		0.25		
1	Pyraclostrobin	Hexanoic acid	0.00187	0.019531	10	0.25
2	Pyraclostrobin	Heptanoic acid	0.00375	0.039062	10	0.50
3	Pyraclostrobin	Octanoic acid	0.00187	0.039062	21	0.38
4	Pyraclostrobin	Nonanoic acid	0.00375	0.039062	10	0.50
5	Pyraclostrobin	Decanoic acid	0.00375	0.015625	4	0.38
6	Pyraclostrobin	Dodecanoic acid	0.00375	0.025	7	0.50
7	Pyraclostrobin	3-Hydroxybutyric acid	0.00375	2.5	667	0.50
8	Pyraclostrobin	3-Hydroxydecanoic acid	0.001875	0.015626	8	0.25

Table 12: Growth inhibition of *Fusarium oxysporum* by chlorothalonil, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A)	MIC (B)	Ratio	FIC Index
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ation			(mg/mL)	(mg/mL)	Compound B/ Compound A	
	Chlorothalonil		0.000125			
		Heptanoic acid		0.15625		
		Octanoic acid		0.3125		
		Nonanoic acid		0.3125		
		Dodecanoic acid		0.1		
		3-Hydroxydecanoic acid		0.25		
1	Chlorothalonil	Heptanoic acid	6.25x10 ⁻⁵	0.039062	625	0.75
2	Chlorothalonil	Octanoic acid	6.25x10 ⁻⁵	0.039062	625	0.63
3	Chlorothalonil	Nonanoic acid	6.25x10 ⁻⁵	0.019531	313	0.56
4	Chlorothalonil	Dodecanoic acid	6.25x10 ⁻⁵	0.025	400	0.75
5	Chlorothalonil	3-Hydroxydecanoic acid	1.9531x10 ⁻⁶	0.003125	16000	0.19

Table 13: Growth inhibition of *Fusarium oxysporum* by fludioxonil and cyprodinil, in combination with an exemplary saturated aliphatic acid

Combinat ion	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Fludioxonil		0.021			
	Cyprodinil		0.009			
		Dodecanoic acid		0.1		
		3-Hydroxydecanoic acid		0.25		
1	Fludioxonil	Dodecanoic acid	0.00525	0.025	5	0.50
2	Fludioxonil	3-Hydroxydecanoic acid	0.00131	0.03125	24	0.19
3	Cyprodinil	3-Hydroxydecanoic acid	0.00225	0.03125	14	0.50

Table 15B: Growth inhibition of *Fusarium oxysporum* by various synthetic fungicides in combination with saturated 3-hydroxy aliphatic acids

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.015			
	Azoxystrobin		0.15			
	Fludioxonil		0.021			
	Difenoconazole		0.051			
	Tebuconazole		0.225			
		3-Hydroxybutyric acid		10		
		3-Hydroxyhexanoic acid		2.5		

		3-Hydroxydecanoic acid		0.25		
1	Pyraclostrobin	3-Hydroxybutyric acid	0.001875	2.5	1333	0.38
2	Azoxystrobin	3-Hydroxybutyric acid	0.0375	2.5	67	0.50
3	Azoxystrobin	3-Hydroxyhexanoic acid	0.0375	0.625	17	0.50
4	Fludioxonil	3-Hydroxybutyric acid	0.00525	2.5	476	0.50
5	Difenoconazole	3-Hydroxybutyric acid	0.01275	2.5	196	0.50
6	Tebuconazole	3-Hydroxybutyric acid	0.05625	2.5	44	0.50
7	Tebuconazole	3-Hydroxydecanoic acid	0.05625	0.0625	1.1	0.50

Table 20B: Growth inhibition of *Sclerotinia sclerotiorum* by various fungicides, in combination with various exemplary saturated hydroxy aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.00375			
	Azoxystrobin		0.075			
	Chlorothalonil		3.125×10^{-5}			
	Cyprodinil		0.009			
	Metaxyl		1.261			
	Difenoconazole		0.0255			
	Propiconazole		0.089			
	Epoxiconazole		0.03			
	Tebuconazole		0.05625			
		3-Hydroxybutyric acid		5.0		
		3-Hydroxyhexanoic acid		2.5		
		3-Hydroxydecanoic acid		0.0625		
1	Pyraclostrobin	3-Hydroxybutyric acid	0.0009375	1.25	1333	0.50
2	Pyraclostrobin	3-Hydroxyhexanoic acid	0.0009375	0.625	667	0.50
3	Pyraclostrobin	3-Hydroxydecanoic acid	0.0009375	0.015625	17	0.50
4	Azoxystrobin	3-Hydroxyhexanoic acid	0.01875	0.625	33	0.50
5	Chlorothalonil	3-Hydroxyhexanoic acid	7.813×10^{-6}	1.25	160000	0.75
6	Cyprodinil	3-Hydroxyhexanoic	0.00225	1.25	556	0.75

		acid				
7	Metalaxyl	3-Hydroxyhexanoic acid	0.31525	1.25	4	0.75
8	Difenoconazole	3-Hydroxybutyric acid	0.006375	2.5	392	0.75
9	Difenoconazole	3-Hydroxyhexanoic acid	0.006375	1.25	196	0.75
10	Propiconazole	3-Hydroxybutyric acid	0.02225	2.5	112	0.75
11	Propiconazole	3-Hydroxyhexanoic acid	0.02225	1.25	56	0.75
12	Epoxiconazole	3-Hydroxybutyric acid	0.001875	0.625	333	0.19
13	Epoxiconazole	3-Hydroxyhexanoic acid	0.00375	0.625	167	0.38
14	Tebuconazole	3-Hydroxybutyric acid	0.014062	1.25	89	0.50
15	Tebuconazole	3-Hydroxyhexanoic acid	0.014062	0.625	44	0.50

Table 43: Growth inhibition of *Botrytis cinerea* by pyraclostrobin, in combination with various exemplary unsaturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.001875			
		(2E,4E)-2,4-hexadienoic acid		0.0625		
		Trans-2-hexenoic acid		0.078125		
		Trans-3-hexenoic acid		0.15625		
		4-Hexenoic acid		0.3125		
		5-Hexenoic acid		0.15625		
		3-Heptenoic acid		0.078125		
		Trans-2-octenoic acid		0.039062		
		3-Octenoic acid		0.078125		
		Trans-3-octenoic acid		0.078125		
		7-Octenoic acid		0.078125		
		Trans-2-nonenoic acid		0.078125		
		3-Nonenoic acid		0.078125		
		Trans-2-decenoic acid		0.019531		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.15625		
		Trans-2-undecenoic acid		0.15625		
1	Pyraclostrobin	(2E,4E)-2,4-hexadienoic acid	0.000469	0.007812	17	0.38
2	Pyraclostrobin	Trans-2-hexenoic acid	0.000937	0.009766	10	0.63
3	Pyraclostrobin	Trans-3-hexenoic acid	0.000469	0.009766	21	0.31
4	Pyraclostrobin	4-Hexenoic acid	0.000937	0.019531	21	0.56
5	Pyraclostrobin	5-Hexenoic acid	0.000469	0.009766	21	0.31
6	Pyraclostrobin	3-Heptenoic acid	0.000469	0.004882	10	0.31

7	Pyraclostrobin	Trans-2-octenoic acid	0.000234	0.002441	10	0.19
8	Pyraclostrobin	3-Octenoic acid	0.000234	0.002441	10	0.16
9	Pyraclostrobin	Trans-3-octenoic acid	0.000469	0.004882	10	0.31
10	Pyraclostrobin	7-Octenoic acid	0.000469	0.004882	10	0.31
11	Pyraclostrobin	Trans-2-nonenoic acid	0.000469	0.004882	10	0.31
12	Pyraclostrobin	3-Nonenoic acid	0.000469	0.004882	10	0.31
13	Pyraclostrobin	Trans-2-decenoic acid	0.000469	0.004882	10	0.50
14	Pyraclostrobin	3-Decenoic acid	0.000234	0.004882	21	0.19
15	Pyraclostrobin	9-Decenoic acid	0.000234	0.002441	10	0.14
16	Pyraclostrobin	Trans-2-undecenoic acid	0.000937	0.009766	10	0.56

Table 116: Growth inhibition of *Botrytis cinerea* by various synthetic fungicides in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.015			
	Azoxystrobin		0.15			
	Cyprodinil		0.009			
	Difenoconazole		0.0255			
	Epoxiconazole		0.03			
	Tebuconazole		0.1125			
		3-hydroxybutyric acid		10		
		3-hydroxyhexanoic acid		2.5		
		3-hydroxydecanoic acid		0.125		
1	Pyraclostrobin	3-hydroxybutyric acid	0.00375	2.5	667	0.50
2	Azoxystrobin	3-hydroxybutyric acid	0.0375	5	133	0.75
3	Cyprodinil	3-hydroxybutyric acid	0.00225	5	2222	0.75
4	Cyprodinil	3-hydroxyhexanoic acid	0.00225	1.25	556	0.75
5	Cyprodinil	3-hydroxydecanoic acid	0.00225	0.0625	28	0.75
6	Difenoconazole	3-hydroxybutyric acid	0.01275	2.5	196	0.75
7	Difenoconazole	3-hydroxyhexanoic acid	0.01275	0.625	49	0.75
8	Difenoconazole	3-hydroxydecanoic acid	0.01275	0.03125	2	0.75
9	Epoxiconazole	3-hydroxybutyric acid	0.0075	2.5	333	0.50
10	Tebuconazole	3-hydroxybutyric acid	0.01406	1.25	89	0.25

Table 117: Growth inhibition of *Fusarium oxysporum* by various synthetic fungicides in combination with exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.015			
	Azoxystrobin		0.15			
	Tebuconazole		0.1125			
		3-Hydroxyoctanoic acid		1.25		

		8-Hydroxyoctanoic acid		5		
1	Pyraclostrobin	3-Hydroxyoctanoic acid	0.0075	0.3125	42	0.75
2	Pyraclostrobin	8-Hydroxyoctanoic acid	0.0075	1.25	167	0.75
3	Azoxystrobin	3-Hydroxyoctanoic acid	0.075	0.3125	4	0.75
4	Azoxystrobin	8-Hydroxyoctanoic acid	0.075	1.25	17	0.75
7	Tebuconazole	8-Hydroxyoctanoic acid	0.05625	0.625	11	0.63

Table 118: Growth inhibition of *Fusarium oxysporum* by pyraclostrobin in combination with an exemplary hydroxy-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.015			
		10-Hydroxydecanoic acid		1		
1	Pyraclostrobin	10-Hydroxydecanoic acid	0.00375	0.25	67	0.50

Table 119: Growth inhibition of *Fusarium oxysporum* by various synthetic fungicides in combination with various exemplary hydroxy-substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.015			
	Fludioxonil		0.021			
	Azoxystrobin		0.15			
	Tebuconazole		0.225			
		2-Hydroxybutyric acid		5		
		2-Hydroxyhexanoic acid		2.5		
		2-Hydroxyoctanoic acid		0.625		
1	Pyraclostrobin	2-Hydroxybutyric acid	0.00375	1.25	333	0.50
2	Pyraclostrobin	2-Hydroxyhexanoic acid	0.00375	0.625	167	0.50
3	Fludioxonil	2-Hydroxybutyric acid	0.00525	1.25	238	0.50
4	Fludioxonil	2-Hydroxyhexanoic acid	0.00525	0.625	119	0.50
5	Fludioxonil	2-Hydroxyoctanoic acid	0.00525	0.15625	30	0.50
6	Azoxystrobin	2-Hydroxybutyric acid	0.0375	1.25	33	0.50
7	Azoxystrobin	2-Hydroxyhexanoic acid	0.0375	0.625	17	0.50
8	Tebuconazole	2-Hydroxyhexanoic acid	0.05625	0.625	11	0.50

Table 120: Growth inhibition of *Sclerotinia sclerotiorum* by various synthetic fungicides in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.0075			

	Azoxystrobin		0.15			
	Fludioxonil		3.28125×10^{-4}			
	Tebuconazole		0.05625			
		3-hydroxyoctanoic acid		0.625		
		8-hydroxyoctanoic acid		5		
1	Pyraclostrobin	3-hydroxyoctanoic acid	0.001875	0.15625	83	0.50
2	Pyraclostrobin	8-hydroxyoctanoic acid	9.375×10^{-4}	0.3125	333	0.19
3	Azoxystrobin	3-hydroxyoctanoic acid	0.0375	0.15625	4	0.50
4	Azoxystrobin	8-hydroxyoctanoic acid	0.0375	0.625	17	0.38
5	Fludioxonil	8-hydroxyoctanoic acid	8.20315×10^{-5}	1.25	15238	0.50
6	Tebuconazole	3-hydroxyoctanoic acid	0.028125	0.15625	6	0.75
7	Tebuconazole	8-hydroxyoctanoic acid	0.028125	0.625	22	0.63

Table 121: Growth inhibition of *Sclerotinia sclerotiorum* by various synthetic fungicides in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.0075			
	Azoxystrobin		0.15			
	Fludioxonil		3.28125×10^{-4}			
	Difenoconazole		0.0255			
		10-hydroxydecanoic acid		0.5		
		12-hydroxydodecanoic acid		0.1		
1	Pyraclostrobin	10-hydroxydecanoic acid	0.001875	0.125	67	0.50
2	Pyraclostrobin	12-hydroxydodecanoic acid	0.001875	0.025	13	0.50
3	Azoxystrobin	10-hydroxydecanoic acid	0.0375	0.125	3	0.50
4	Fludioxonil	10-hydroxydecanoic acid	8.20315×10^{-5}	0.25	3048	0.75
5	Difenoconazole	12-hydroxydodecanoic acid	0.006375	0.025	4	0.50

Table 122: Growth inhibition of *Sclerotinia sclerotiorum* by various synthetic fungicides in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.0075			
	Fludioxonil		3.281×10^{-4}			

			4			
	Difenoconazole		0.0255			
	Azoxystrobin		0.15			
	Tebuconazole		0.1125			
		2-Hydroxybutyric acid		2.5		
		2-Hydroxyhexanoic acid		2.5		
		2-Hydroxyoctanoic acid		0.3125		
1	Pyraclostrobin	2-Hydroxybutyric acid	0.001875	1.25	667	0.75
2	Pyraclostrobin	2-Hydroxyhexanoic acid	0.001875	0.625	333	0.50
3	Pyraclostrobin	2-Hydroxyoctanoic acid	0.001875	0.15625	83	0.75
4	Fludioxonil	2-Hydroxybutyric acid	4.101×10^{-5}	1.25	30476	0.63
5	Fludioxonil	2-Hydroxyhexanoic acid	4.101×10^{-5}	0.625	15238	0.38
6	Fludioxonil	2-Hydroxyoctanoic acid	4.101×10^{-5}	0.15625	3810	0.63
7	Difenoconazole	2-Hydroxybutyric acid	0.006375	1.25	196	0.75
8	Difenoconazole	2-Hydroxyhexanoic acid	0.006375	0.625	98	0.50
9	Azoxystrobin	2-Hydroxybutyric acid	0.0375	1.25	33	0.75
10	Azoxystrobin	2-Hydroxyhexanoic acid	0.0375	0.625	17	0.50
11	Azoxystrobin	2-Hydroxyoctanoic acid	0.0375	0.15625	4	0.75
12	Tebuconazole	2-Hydroxybutyric acid	0.01406	0.625	44	0.38
13	Tebuconazole	2-Hydroxyhexanoic acid	0.028125	0.625	22	0.50
14	Tebuconazole	2-Hydroxyoctanoic acid	0.028125	0.15625	6	0.75

Table 123: Growth inhibition of *Botrytis cinerea* by various exemplary synthetic fungicides in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.015			
	Azoxystrobin		0.15			
	Difenoconazole		0.051			
	Tebuconazole		0.1125			
		3-hydroxyoctanoic acid		0.625		
		8-hydroxyoctanoic acid		2.5		
1	Pyraclostrobin	3-hydroxyoctanoic acid	0.00375	0.15625	42	0.50
2	Pyraclostrobin	8-hydroxyoctanoic acid	0.00375	0.625	167	0.50
3	Azoxystrobin	3-hydroxyoctanoic acid	0.0375	0.3125	8	0.75
4	Azoxystrobin	8-hydroxyoctanoic acid	0.0375	1.25	33	0.75
5	Difenoconazole	8-hydroxyoctanoic acid	0.006375	0.3125	49	0.25
6	Tebuconazole	3-hydroxyoctanoic acid	0.003516	0.01953	6	0.06
7	Tebuconazole	8-hydroxyoctanoic acid	0.001758	0.03906	22	0.03

Table 124: Growth inhibition of *Botrytis cinerea* by various exemplary synthetic fungicides in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.015			
	Fludioxonil		1.641×10^{-4}			
	Tebuconazole		0.1125			
		3-Hydroxyoctanoic acid		0.625		
		8-Hydroxyoctanoic acid		2.5		
		10-Hydroxydecanoic acid		0.5		
		12-Hydroxydodecanoic acid		0.05		
1	Pyraclostrobin	12-Hydroxydodecanoic acid	0.00375	0.025	7	0.75
2	Fludioxonil	3-Hydroxyoctanoic acid	4.103×10^{-5}	0.019531	476	0.28
3	Fludioxonil	8-Hydroxyoctanoic acid	4.103×10^{-5}	0.078125	1904	0.28
4	Tebuconazole	10-Hydroxydecanoic acid	0.003516	0.015625	4	0.06

Table 125: Growth inhibition of *Botrytis cinerea* by various exemplary synthetic fungicides in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Azoxystrobin		0.15			
		12-Hydroxydodecanoic acid		0.1		
1	Azoxystrobin	12-Hydroxydodecanoic acid	0.0375	0.05	1.33	0.75

Table 126: Growth inhibition of *Botrytis cinerea* by various exemplary synthetic fungicides in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Pyraclostrobin		0.015			
	Azoxystrobin		0.15			
	Difenoconazole		0.051			
		2-hydroxybutyric acid		5		
		2-hydroxyhexanoic acid		2.5		
		2-hydroxyoctanoic acid		0.625		
1	Pyraclostrobin	2-hydroxyoctanoic acid	0.00375	0.15625	42	0.50
2	Azoxystrobin	2-hydroxybutyric acid	0.0375	2.5	67	0.75
3	Azoxystrobin	2-hydroxyhexanoic acid	0.0375	1.25	33	0.75
4	Azoxystrobin	2-hydroxyoctanoic acid	0.0375	0.3125	8	0.75
5	Difenoconazole	2-hydroxybutyric acid	0.01275	1.25	98	0.50

Table 127: Growth inhibition of *Sclerotinia sclerotiorum* by various exemplary synthetic fungicides in combination with various exemplary alkyl-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.0075			
	Fludioxonil		3.281×10^{-4}			
	Azoxystrobin		0.15			
	Tebuconazole		0.1125			
		2,2-Diethylbutanoic acid		0.25		
		3-Methylbutyric acid		0.625		
	Pyraclostrobin	2,2-Diethylbutanoic acid	0.001875	0.0625	33	0.50
	Pyraclostrobin	3-Methylbutyric acid	9.375×10^{-4}	0.078125	83	0.25
	Fludioxonil	2,2-Diethylbutanoic acid	4.101×10^{-5}	0.0625	1524	0.38
	Fludioxonil	3-Methylbutyric acid	4.101×10^{-5}	0.15625	3810	0.38
	Azoxystrobin	3-Methylbutyric acid	0.0375	0.15625	4	0.50
	Tebuconazole	2,2-Diethylbutanoic acid	0.028125	0.0625	2	0.50
	Tebuconazole	3-Methylbutyric acid	0.028125	0.15625	6	0.50

Table 128: Growth inhibition of *Sclerotinia sclerotiorum* by various exemplary synthetic fungicides in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.0075			
	Azoxystrobin		0.15			
	Fludioxonil		3.28125×10^{-4}			
	Difenoconazole		0.01275			
	Tebuconazole		0.05625			
		2-Ethylhexanoic acid		0.625		
1	Pyraclostrobin	2-Ethylhexanoic acid	2.34375×10^{-4}	0.009766	42	0.05
2	Azoxystrobin	2-Ethylhexanoic acid	0.01875	0.039062	2	0.19
3	Fludioxonil	2-Ethylhexanoic acid	4.10158×10^{-5}	0.078125	1905	0.25
4	Difenoconazole	2-Ethylhexanoic acid	0.006375	0.078125	12	0.63
5	Tebuconazole	2-Ethylhexanoic acid	0.028125	0.078125	3	0.63

Table 129: Growth inhibition of *Sclerotinia sclerotiorum* by various exemplary synthetic fungicides in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Pyraclostrobin		0.0075			
	Azoxystrobin		0.15			

	Fludioxonil		3.2813×10^{-4}			
		2-Methyloctanoic acid		0.078125		
1	Pyraclostrobin	2-Methyloctanoic acid	9.375×10^{-4}	0.009766	10	0.25
2	Azoxystrobin	2-Methyloctanoic acid	0.0375	0.019531	0.5	0.50
3	Fludioxonil	2-Methyloctanoic acid	4.10158×10^{-5}	0.019531	476	0.38

Table 130: Growth inhibition of *Sclerotinia sclerotiorum* by various exemplary synthetic fungicides in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.0075			
	Fludioxonil		3.28125×10^{-4}			
		3-Methylhexanoic acid		0.125		
1	Pyraclostrobin	3-Methylhexanoic acid	9.375×10^{-4}	0.015625	17	0.25
2	Fludioxonil	3-Methylhexanoic acid	8.20315×10^{-5}	0.0625	762	0.75

Table 131: Growth inhibition of *Sclerotinia sclerotiorum* by pyraclostrobin in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.00375			
		4-Methylhexanoic acid		0.078125		
1	Pyraclostrobin	4-Methylhexanoic acid	9.375×10^{-4}	0.009766	10	0.38

Table 132: Growth inhibition of *Botrytis cinerea* by various exemplary synthetic fungicides in combination with various exemplary alkyl-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Pyraclostrobin		0.0015			
	Difenoconazole		0.051			
	Azoxystrobin		0.15			
	Tebuconazole		0.1125			
		2,2-Diethylbutanoic acid		0.25		
		4-Methylhexanoic acid		0.15625		
		2-Methyloctanoic acid		0.078125		
1	Pyraclostrobin	4-Methylhexanoic acid	0.00375	0.03906	10	0.50

2	Difenoconazole	2,2-Diethylbutanoic acid	0.01275	0.0625	5	0.50
3	Difenoconazole	4-Methylhexanoic acid	0.01275	0.03906	3	0.50
4	Difenoconazole	2-Methyloctanoic acid	0.01275	0.019531	2	0.50
5	Azoxystrobin	4-Methylhexanoic acid	0.01875	0.039062	2	0.38
6	Tebuconazole	2,2-Diethylbutanoic acid	0.001758	0.003906	2	0.03
7	Tebuconazole	4-Methylhexanoic acid	0.003516	0.004883	1.4	0.06
8	Tebuconazole	2-Methyloctanoic acid	0.001758	0.001221	0.7	0.03

Table 133: Growth inhibition of *Botrytis cinerea* by various exemplary synthetic fungicides in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Pyraclostrobin		0.015			
	Difenoconazole		0.051			
	Tebuconazole		0.1125			
		2-Ethylhexanoic acid		0.3125		
1	Pyraclostrobin	2-Ethylhexanoic acid	0.0075	0.078125	10	0.75
2	Difenoconazole	2-Ethylhexanoic acid	0.0255	0.078125	3	0.75
3	Tebuconazole	2-Ethylhexanoic acid	0.003516	0.004883	1	0.05

Table 134: Growth inhibition of *Botrytis cinerea* by various exemplary synthetic fungicides in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Pyraclostrobin		0.015			
	Azoxystrobin		0.15			
	Tebuconazole		0.1125			
		3-Methylhexanoic acid		0.125		
1	Pyraclostrobin	3-Methylhexanoic acid	0.00375	0.03125	8	0.50
2	Azoxystrobin	3-Methylhexanoic acid	0.0375	0.0625	2	0.75
3	Tebuconazole	3-Methylhexanoic acid	0.001758	0.001953	1	0.03

Table 135: Growth inhibition of *Botrytis cinerea* by various exemplary synthetic fungicides in combination with various exemplary alkyl-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio CompB/ Comp A	FIC Index
	Pyraclostrobin		0.015			
	Difenoconazole		0.051			
		2-Methyldecanoic acid	0.015625			
		3-Methylbutyric acid	0.3125			
	Pyraclostrobin	2-Methyldecanoic acid	0.00375	0.0078125	2	0.75
1	Pyraclostrobin	3-Methylbutyric acid	0.00375	0.15625	42	0.75
2	Difenoconazole	3-Methylbutyric acid	0.006375	0.078125	12	0.38

Table 136: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		0.625			
	Garlic oil		5			
	Lemongrass oil		2.5			
	Wintergreen oil		10			
	Spearmint oil		5			
	Cinnamon leaf oil		1.25			
	Geranium oil		5			
	Nootkatone (+)		0.5			
	Rose oil		5			
	Clove leaf oil		0.625			
		3-Hydroxybutyric acid		10		
		10-Hydroxydecanoic acid		0.125		
1	Thyme oil	3-Hydroxybutyric acid	0.3125	2.5	8	0.75
2	Garlic oil	3-Hydroxybutyric acid	0.625	2.5	4	0.38
3	Lemongrass oil	3-Hydroxybutyric acid	0.625	5	8	0.75
4	Wintergreen oil	3-Hydroxybutyric acid	2.5	5	2	0.75
5	Spearmint oil	3-Hydroxybutyric acid	1.25	2.5	2	0.50
6	Cinnamon leaf oil	3-Hydroxybutyric acid	0.3125	2.5	8	0.50
7	Geranium oil	3-Hydroxybutyric acid	1.25	5	4	0.75
8	Nootkatone (+)	3-Hydroxybutyric acid	0.25	2.5	10	0.75
9	Rose oil	3-Hydroxybutyric acid	1.25	2.5	2	0.50
10	Nootkatone (+)	3-Hydroxydecanoic acid	0.125	0.0625	0.5	0.75
11	Clove leaf oil	3-Hydroxybutyric acid	0.3125	2.5	8	0.75

Table 137: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		0.625			
	Lemongrass oil		1.25			
	Spearmint		5			
		3-Hydroxyhexanoic acid		2.5		
1	Thyme oil	3-Hydroxyhexanoic acid	0.3125	0.625	2	0.75
2	Lemongrass oil	3-Hydroxyhexanoic acid	0.3125	0.625	2	0.50
3	Spearmint	3-Hydroxyhexanoic acid	1.25	0.625	0.5	0.50

Table 138: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids

Combi	Compound A	Compound B	MIC (A)	MIC (B)	Ratio Comp	FIC
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nation			(mg/mL)	(mg/mL)	B/ Comp A	Index
	Garlic oil		5			
		8-hydroxyoctanoic acid		5		
1	Garlic oil	8-hydroxyoctanoic acid	0.625	0.625	1	0.25

Table 139: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		0.625			
	Lemongrass oil		2.5			
	Spearmint oil		10			
	Clove leaf oil		1.25			
	Tea tree oil		2.5			
		10-hydroxydecanoic acid		1		
1	Thyme oil	10-hydroxydecanoic acid	0.3125	0.25	0.8	0.75
2	Lemongrass oil	10-hydroxydecanoic acid	0.3125	0.25	0.8	0.38
3	Spearmint oil	10-hydroxydecanoic acid	1.25	0.25	0.2	0.38
4	Clove leaf oil	10-hydroxydecanoic acid	0.3125	0.25	0.8	0.50
5	Tea tree oil	10-hydroxydecanoic acid	1.25	0.25	0.2	0.75

Table 140: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Thyme oil		1.25			
		2-Hydroxybutyric acid		5		
1	Thyme oil	2-Hydroxybutyric acid	0.3125	1.25	4	0.50

Table 141: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		1.25			
	Lemongrass oil		2.5			
	Clove leaf oil		1.25			
	Cinnamon leaf oil		1.25			
		2-Hydroxyhexanoic acid		2.5		
		2-Hydroxyoctanoic acid		0.625		
1	Thyme oil	2-Hydroxyhexanoic acid	0.3125	0.625	2	0.50
2	Lemongrass oil	2-Hydroxyoctanoic acid	0.625	0.3125	0.5	0.75
4	Clove leaf oil	2-Hydroxyhexanoic acid	0.3125	0.625	2	0.50
5	Clove leaf oil	2-Hydroxyoctanoic acid	0.3125	0.15625	0.5	0.50
6	Cinnamon leaf oil	2-Hydroxyhexanoic acid	0.3125	0.625	2	0.50

Table 142: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Peppermint oil		5			
	Lemongrass oil		0.625			
	Wintergreen oil		5			
	Geranium oil		2.5			
	Rosemary oil		2.5			
		2-Hydroxybutyric acid		2.5		
1	Peppermint oil	2-Hydroxybutyric acid	0.625	0.625	1	0.25
2	Lemongrass oil	2-Hydroxybutyric acid	0.15625	1.25	8	0.75
3	Wintergreen oil	2-Hydroxybutyric acid	1.25	1.25	1	0.75
4	Geranium oil	2-Hydroxybutyric acid	0.625	1.25	2	0.75
5	Rosemary oil	2-Hydroxybutyric acid	0.625	1.25	2	0.75

Table 143: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/Comp A	FIC Index
	Thyme oil		0.625			
	Clove leaf oil		1.25			
		3-Hydroxydecanoic acid		0.0625		
1	Thyme oil	3-Hydroxydecanoic acid	0.15625	0.015625	0.1	0.50
2	Clove leaf oil	3-Hydroxydecanoic acid	0.3125	0.015625	0.05	0.50

Table 144: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/Comp A	FIC Index
	Thyme oil		0.625			
	Oregano oil		0.625			
		3-Hydroxybutyric acid		5		
		3-Hydroxydecanoic acid		0.0625		
1	Thyme oil	3-Hydroxydecanoic acid	0.15625	0.015625	0.1	0.50
2	Oregano oil	3-Hydroxybutyric acid	0.15625	1.25	8	0.50

Table 145: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/Comp A	FIC Index
	Thyme oil		0.625			

	Garlic oil		1.25			
	Wintergreen oil		10			
	Peppermint oil		5			
	Spearmint oil		5			
	Clove leaf oil		1.25			
	Rosemary oil		5			
	Oregano oil		0.625			
	Cinnamon leaf oil		0.625			
		3-Hydroxyhexanoic acid		2.5		
1	Thyme oil	3-Hydroxyhexanoic acid	0.15625	0.625	4	0.50
2	Garlic oil	3-Hydroxyhexanoic acid	0.15625	0.625	4	0.38
3	Wintergreen oil	3-Hydroxyhexanoic acid	1.25	0.625	0.5	0.38
4	Peppermint oil	3-Hydroxyhexanoic acid	1.25	0.625	0.5	0.50
5	Spearmint oil	3-Hydroxyhexanoic acid	0.625	0.625	1	0.38
6	Clove leaf oil	3-Hydroxyhexanoic acid	0.3125	0.625	2	0.50
7	Rosemary oil	3-Hydroxyhexanoic acid	0.625	0.625	1	0.38
8	Oregano oil	3-Hydroxyhexanoic acid	0.15625	0.625	4	0.50
9	Cinnamon leaf oil	3-Hydroxyhexanoic acid	0.3125	0.625	2	0.75

Table 146: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/Comp A	FIC Index
	Thyme oil		0.625			
		3-Hydroxyoctanoic acid		0.625		
1	Thyme oil	3-Hydroxyoctanoic acid	0.15625	0.15625	1	0.50

Table 147: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/Comp A	FIC Index
	Thyme oil		0.625			
	Cinnamon leaf oil		1.25			
	Lemongrass oil		0.625			
		8-Hydroxyoctanoic acid		2.5		
1	Thyme oil	8-Hydroxyoctanoic acid	0.15625	0.625	4	0.50
2	Cinnamon leaf oil	8-Hydroxyoctanoic acid	0.3125	0.625	2	0.50
3	Lemongrass oil	8-Hydroxyoctanoic acid	0.15625	0.625	4	0.50

Table 148: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/Comp A	FIC Index
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	Garlic oil		0.625			
		3-Hydroxybutyric acid		10		
1	Garlic oil	3-Hydroxybutyric acid	0.15625	1.25	8	0.38

Table 149: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Garlic oil		0.625			
	Wintergreen oil		10			
	Oregano oil		1.25			
		10-Hydroxydecanoic acid		1		
1	Garlic oil	10-Hydroxydecanoic acid	0.15625	0.125	0.8	0.38
2	Wintergreen oil	10-Hydroxydecanoic acid	2.5	0.25	0.1	0.50
3	Oregano oil	10-Hydroxydecanoic acid	0.3125	0.25	0.8	0.50

Table 150: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary hydroxy-substituted aliphatic acid.

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Clove leaf oil		0.625			
		12-hydroxydodecanoic acid		0.1		
1	Clove leaf oil	12-hydroxydodecanoic acid	0.3125	0.025	0.08	0.75

Table 151: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids.

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		0.625			
	Lemongrass oil		0.625			
	Clove leaf oil		1.25			
	Cinnamon leaf oil		1.25			
	Geranium oil		2.5			
	Oregano oil		0.3125			
	Rose oil		1.25			
	Tea tree oil		2.5			
	Rosemary oil		2.5			
	Garlic oil		1.5			
	Spearmint oil		2.5			
	Peppermint oil		2.5			
		3-Hydroxybutyric acid	10			
		3-Hydroxyhexanoic acid	2.5			
		3-Hydroxydecanoic acid	0.125			
1	Thyme oil	3-Hydroxybutyric acid	0.15625	2.5	16	0.50
2	Thyme oil	3-Hydroxydecanoic acid	0.15625	0.0625	0.4	0.75
3	Lemongrass oil	3-Hydroxybutyric acid	0.15625	2.5	16	0.50

4	Lemongrass oil	3-Hydroxydecanoic acid	0.15625	0.0625	0.4	0.75
5	Clove leaf oil	3-Hydroxybutyric acid	0.3125	2.5	8	0.50
6	Clove leaf oil	3-Hydroxyhexanoic acid	0.3125	0.625	2	0.50
7	Cinnamon leaf oil	3-Hydroxybutyric acid	0.3125	2.5	8	0.50
8	Cinnamon leaf oil	3-Hydroxyhexanoic acid	0.3125	0.625	2	0.50
9	Geranium oil	3-Hydroxybutyric acid	0.3125	2.5	8	0.38
10	Geranium oil	3-Hydroxyhexanoic acid	0.3125	0.625	2	0.38
11	Oregano oil	3-Hydroxybutyric acid	0.15625	2.5	16	0.75
12	Oregano oil	3-Hydroxyhexanoic acid	0.15625	0.625	4	0.75
13	Rose oil	3-Hydroxybutyric acid	0.3125	2.5	8	0.50
14	Tea tree oil	3-Hydroxybutyric acid	0.3125	2.5	8	0.50
15	Rosemary oil	3-Hydroxybutyric acid	1.25	2.5	2	0.75
16	Rosemary oil	3-Hydroxyhexanoic acid	1.25	0.625	0.5	0.75
17	Garlic oil	3-Hydroxyhexanoic acid	0.3125	0.3125	1	0.38
18	Garlic oil	3-Hydroxydecanoic acid	0.625	0.03125	0.05	0.75
19	Spearmint oil	3-Hydroxyhexanoic acid	0.625	0.625	1	0.50
20	Peppermint oil	3-Hydroxybutyric acid	1.25	2.5	2	0.75
21	Peppermint oil	3-Hydroxyhexanoic acid	1.25	0.625	0.5	0.75

Table 152: Growth inhibition of *Botrytis cinerea* by an exemplary botanical extract active in combination with various exemplary hydroxy-substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Spearmint oil		1.25			
	Rosemary oil		2.5			
		3-Hydroxyoctanoic acid		0.625		
		8-Hydroxyoctanoic acid		2.5		
1	Spearmint oil	3-Hydroxyoctanoic acid	0.625	0.15625	0.25	0.75
2	Spearmint oil	8-Hydroxyoctanoic acid	0.625	0.625	1	0.75
3	Rosemary oil	3-Hydroxyoctanoic acid	1.25	0.15625	0.13	0.75
4	Rosemary oil	8-Hydroxyoctanoic acid	1.25	0.625	0.50	0.75

Table 153: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Lemongrass oil		2.5			
	Cinnamon leaf oil		2.5			
		10-Hydroxydecanoic acid		0.5		
		12-Hydroxydodecanoic acid		0.05		
1	Lemongrass oil	10-Hydroxydecanoic acid	0.15625	0.125	0.8	0.31
2	Cinnamon leaf oil	12-Hydroxydodecanoic acid	0.3125	0.025	0.08	0.63

Table 154: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Thyme oil		0.625			
	Garlic oil		1.25			
	Lemongrass oil		1.25			
	Peppermint oil		2.5			
	Clove leaf oil		0.625			
	Cinnamon leaf oil		0.625			
	Spearmint oil		2.5			
	Wintergreen oil		2.5			
	Thyme oil		0.625			
		10-Hydroxydecanoic acid		0.5		
		12-Hydroxydodecanoic acid		0.05		
	Thyme oil	12-Hydroxydodecanoic acid	0.15625	0.025	0.16	0.75
1	Garlic oil	10-Hydroxydecanoic acid	0.15625	0.03125	0.2	0.19
2	Lemongrass oil	12-Hydroxydodecanoic acid	0.15625	0.025	0.16	0.63
3	Peppermint oil	10-Hydroxydecanoic acid	1.25	0.125	0.1	0.75
4	Clove leaf oil	10-Hydroxydecanoic acid	0.3125	0.125	0.4	0.75
5	Cinnamon leaf oil	10-Hydroxydecanoic acid	0.3125	0.125	0.4	0.75
6	Spearmint oil	10-Hydroxydecanoic acid	0.625	0.125	0.2	0.50
7	Spearmint oil	12-Hydroxydodecanoic acid	0.625	0.025	0.04	0.75
8	Wintergreen oil	12-Hydroxydodecanoic acid	0.625	0.025	0.04	0.75
9	Thyme oil	10-Hydroxydecanoic acid	0.15625	0.125	0.8	0.50

Table 155: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/Comp A	FIC Index
	Tea tree oil		1.25			
	Geranium oil		1.25			
	Peppermint oil		5			
	Spearmint oil		5			
	Clove leaf oil		1.25			
	Cinnamon leaf oil		1.25			
		2-Hydroxybutyric acid		5		
		2-Hydroxyhexanoic acid		2.5		

1	Tea tree oil	2-Hydroxybutyric acid	0.3125	1.25	4	0.50
2	Geranium oil	2-Hydroxybutyric acid	0.15625	0.625	4	0.25
3	Geranium oil	2-Hydroxyhexanoic acid	0.3125	0.625	2	0.50
4	Peppermint oil	2-Hydroxyhexanoic acid	1.25	0.625	0.5	0.50
5	Spearmint oil	2-Hydroxyhexanoic acid	0.625	0.625	1	0.38
6	Clove leaf oil	2-Hydroxyhexanoic acid	0.3125	0.625	2	0.50
7	Cinnamon leaf oil	2-Hydroxyhexanoic acid	0.3125	0.625	2	0.50

Table 156: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with various exemplary hydroxy-substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		0.625			
	Lemongrass oil		0.625			
	Peppermint oil		2.5			
	Rosemary oil		2.5			
	Azatech		0.5			
	Spearmint oil		2.5			
	Wintergreen oil		2.5			
	Clove leaf oil		0.625			
	Cinnamon leaf oil		0.625			
		2-Hydroxybutyric acid		5		
		2-Hydroxyhexanoic acid		2.5		
		3-Hydroxybutyric acid		10		
		3-Hydroxyhexanoic acid		2.5		
		3-Hydroxyoctanoic acid		0.625		
		8-Hydroxyoctanoic acid		2.5		
		10-Hydroxydecanoic acid		0.5		
		12-Hydroxydodecanoic acid		0.05		
1	Thyme oil	2-Hydroxybutyric acid	0.15625	1.25	8	0.50
2	Thyme oil	2-Hydroxyhexanoic acid	0.15625	0.625	4	0.50
3	Lemongrass oil	2-Hydroxybutyric acid	0.15625	1.25	8	0.50
4	Peppermint oil	2-Hydroxybutyric acid	0.625	0.625	1	0.38
5	Rosemary oil	3-Hydroxybutyric acid	1.25	2.5	2	0.75
6	Rosemary oil	3-Hydroxyhexanoic acid	1.25	0.625	0.5	0.75
7	Rosemary oil	3-Hydroxyoctanoic acid	1.25	0.15625	0.13	0.75
8	Rosemary oil	8-Hydroxyoctanoic acid	1.25	0.625	0.5	0.75
9	Azatech	8-Hydroxyoctanoic acid	0.125	1.25	10	0.75
10	Spearmint oil	2-Hydroxybutyric acid	0.625	1.25	2	0.50
11	Spearmint oil	10-Hydroxydecanoic acid	0.625	0.125	0.25	0.50
12	Spearmint oil	12-Hydroxydodecanoic acid	0.625	0.025	0.04	0.75
13	Wintergreen oil	2-Hydroxybutyric acid	0.625	1.25	2	0.50
14	Wintergreen oil	12-Hydroxydodecanoic acid	0.625	0.025	0.04	0.75
15	Clove leaf oil	2-Hydroxybutyric acid	0.3125	1.25	4	0.75

16	Cinnamon leaf oil	2-Hydroxybutyric acid	0.3125	1.25	4	0.75
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Table 157: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with various exemplary alkyl-substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		1.25			
	Lemongrass oil		2.5			
	Wintergreen oil		10			
	Clove leaf oil		1.25			
		3-Methylhexanoic acid		0.125		
		4-Methylhexanoic acid		0.15625		
1	Geranium oil	3-Methylhexanoic acid	1.25	0.0625	0.05	0.75
2	Geranium oil	4-Methylhexanoic acid	1.25	0.078125	0.06	0.75
5	Thyme oil	4-Methylhexanoic acid	0.3125	0.039062	0.13	0.50
6	Lemongrass oil	4-Methylhexanoic acid	0.625	0.078125	0.13	0.75
7	Wintergreen oil	4-Methylhexanoic acid	2.5	0.078125	0.3	0.75
8	Clove leaf oil	4-Methylhexanoic acid	0.3125	0.039062	0.13	0.50

Table 158: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		0.625			
	Clove leaf oil		1.25			
		2-methyloctanoic acid		0.15625		
1	Thyme oil	2-methyloctanoic acid	0.3125	0.01953	0.06	0.63
2	Clove leaf oil	2-methyloctanoic acid	0.3125	0.01953	0.06	0.38

Table 159: Growth inhibition of *Fusarium oxysporum* by various botanical extract actives in combination with various exemplary alkyl-substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Lemongrass oil		2.5			
	Spearmint oil		5			
	Clove leaf oil		1.25			
	Thyme oil		1.25			
	Garlic oil		2.5			
	Cinnamon leaf oil		1.25			
	Geranium oil		5			
	Oregano oil		1.25			
		3-Methylbutyric acid		0.625		

		2,2-Diethylbutanoic acid		0.25		
		2-Methyldecanoic acid		0.0625		
1	Lemongrass oil	3-Methylbutyric acid	0.625	0.3125	0.5	0.75
2	Spearmint oil	3-Methylbutyric acid	1.25	0.15625	0.13	0.50
3	Clove leaf oil	3-Methylbutyric acid	0.3125	0.15625	0.5	0.50
4	Thyme oil	3-Methylbutyric acid	0.3125	0.15625	0.5	0.50
5	Thyme oil	2,2-Diethylbutanoic acid	0.3125	0.125	0.4	0.75
6	Thyme oil	2-Methyldecanoic acid	0.3125	0.03125	0.1	0.75
7	Garlic oil	2,2-Diethylbutanoic acid	0.625	0.125	0.2	0.75
8	Cinnamon leaf oil	3-Methylbutyric acid	0.3125	0.15625	0.5	0.50
9	Cinnamon leaf oil	2,2-Diethylbutanoic acid	0.3125	0.125	0.4	0.75
10	Cinnamon leaf oil	2-Methyldecanoic acid	0.3125	0.03125	0.1	0.75
11	Geranium oil	3-Methylbutyric acid	1.25	0.3125	0.25	0.75
12	Oregano oil	2-Methyldecanoic acid	0.15625	0.03125	0.2	0.63
14	Oregano oil	3-Methylbutyric acid	0.15625	0.15625	1	0.38

Table 160: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Clove leaf oil		1.25			
	Rosemary oil		2.5			
		2-Ethylhexanoic acid		0.15625		
1	Clove leaf oil	2-Ethylhexanoic acid	0.3125	0.078125	0.25	0.75
2	Rosemary oil	2-Ethylhexanoic acid	0.625	0.078125	0.13	0.75

Table 161: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Garlic oil		0.625			
	Clove leaf oil		1.25			
		3-Methylhexanoic acid		0.125		
1	Garlic oil	3-Methylhexanoic acid	0.15625	0.03125	0.2	0.50
2	Clove leaf oil	3-Methylhexanoic acid	0.3125	0.03125	0.1	0.50

Table 162: Growth inhibition of *Sclerotinia sclerotiorum* by various exemplary botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Garlic oil		0.625			
	Cinnamon leaf oil		0.625			
		4-Methylhexanoic acid		0.078125		
1	Garlic oil	4-Methylhexanoic acid	0.15625	0.019531	0.13	0.50
2	Cinnamon leaf	4-Methylhexanoic acid	0.3125	0.019531	0.06	0.75

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Table 163: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Clove leaf oil		1.25			
		2-Methyloctanoic acid		0.078125		
1	Clove leaf oil	2-Methyloctanoic acid	0.3125	0.019531	0.06	0.50

Table 164: Growth inhibition of *Sclerotinia sclerotiorum* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Lemongrass oil		0.625			
	Wintergreen oil		5			
	Geranium oil		2.5			
	Rosemary oil		2.5			
	Thyme oil		0.625			
	Garlic oil		0.625			
		3-Methylbutyric acid		0.3125		
		3-Methylnonanoic acid		0.015625		
1	Lemongrass oil	3-Methylbutyric acid	0.15625	0.15625	1	0.75
		3-Methylnonanoic acid	0.15625	0.003906	0.03	0.50
2	Wintergreen oil	3-Methylbutyric acid	1.25	0.15625	0.13	0.75
3	Geranium oil	3-Methylbutyric acid	0.625	0.15625	0.25	0.75
4	Rosemary oil	3-Methylbutyric acid	0.625	0.15625	0.25	0.75
5	Thyme oil	3-Methylnonanoic acid	0.15625	0.003906	0.03	0.50
	Garlic oil	3-Methylnonanoic acid	0.15625	0.003906	0.03	0.38

Table 165: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Garlic oil		5			
	Clove leaf oil		2.5			
	Cinnamon leaf oil		2.5			
	Tea tree oil		1.25			
	Oregano oil		1.25			
	Azatech		0.5			

	Thyme oil		0.625			
	Lemongrass oil		1.25			
		2-Ethylhexanoic acid		0.3125		
1	Garlic oil	2-Ethylhexanoic acid	1.25	0.078125	0.06	0.50
2	Clove leaf oil	2-Ethylhexanoic acid	0.625	0.078125	0.13	0.50
3	Cinnamon leaf oil	2-Ethylhexanoic acid	0.625	0.078125	0.13	0.50
4	Tea tree oil	2-Ethylhexanoic acid	0.625	0.078125	0.13	0.75
5	Oregano oil	2-Ethylhexanoic acid	0.3125	0.078125	0.25	0.50
6	Thyme oil	2-Ethylhexanoic acid	0.15625	0.039062	0.25	0.50
7	Lemongrass oil	2-Ethylhexanoic acid	0.15625	0.039062	0.25	0.38

Table 166: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Spearmint oil		1.25			
	Rosemary oil		2.5			
	Karanja oil flavonoid extract		0.5			
	Wintergreen oil		2.5			
		2-Ethylhexanoic acid		0.15625		
1	Spearmint oil	2-Ethylhexanoic acid	0.625	0.039062	0.06	0.75
2	Rosemary oil	2-Ethylhexanoic acid	1.25	0.039062	0.03	0.75
3	Karanja oil flavonoid extract	2-Ethylhexanoic acid	0.125	0.039062	0.3	0.50
4	Wintergreen oil	2-Ethylhexanoic acid	0.625	0.039062	0.06	0.50

Table 167: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with various exemplary alkyl-substituted aliphatic acids

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		1.25			
	Garlic oil		2.5			
	Peppermint oil		5			
	Spearmint oil		5			
	Clove leaf oil		1.25			
	Cinnamon leaf oil		1.25			
	Wintergreen oil		2.5			
		2,2-Diethylbutanoic acid		0.25		
		3-Methylbutyric acid		0.3125		
1	Thyme oil	2,2-Diethylbutanoic acid	0.15625	0.0625	0.4	0.38
2	Thyme oil	3-Methylbutyric acid	0.15625	0.15625	1	0.63
3	Garlic oil	2,2-Diethylbutanoic acid	0.625	0.0625	0.1	0.50
4	Garlic oil	3-Methylbutyric acid	0.625	0.15625	0.25	0.75
5	Peppermint oil	2,2-Diethylbutanoic acid	1.25	0.0625	0.05	0.50
6	Peppermint oil	3-Methylbutyric acid	1.25	0.15625	0.13	0.75
7	Spearmint oil	2,2-Diethylbutanoic acid	0.625	0.0625	0.1	0.38

8	Spearmint oil	3-Methylbutyric acid	0.625	0.15625	0.25	0.63
9	Clove leaf oil	2,2-Diethylbutanoic acid	0.3125	0.0625	0.2	0.50
10	Clove leaf oil	3-Methylbutyric acid	0.3125	0.15625	0.5	0.75
11	Cinnamon leaf oil	2,2-Diethylbutanoic acid	0.3125	0.0625	0.2	0.50
12	Cinnamon leaf oil	3-Methylbutyric acid	0.3125	0.15625	0.5	0.75
13	Wintergreen oil	2,2-Diethylbutanoic acid	0.625	0.0625	0.1	0.50

Table 168: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
	Thyme oil		0.625			
	Clove leaf oil		1.25			
	Cinnamon leaf oil		1.25			
	Oregano oil		0.625			
		4-Methylhexanoic acid		0.078125		
1	Thyme oil	4-Methylhexanoic acid	0.15625	0.039062	0.25	0.75
2	Clove leaf oil	4-Methylhexanoic acid	0.3125	0.039062	0.13	0.75
3	Cinnamon leaf oil	4-Methylhexanoic acid	0.3125	0.039062	0.13	0.75
4	Oregano oil	4-Methylhexanoic acid	0.15625	0.039062	0.25	0.75

Table 169: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Thyme oil		0.625			
	Oregano oil		1.25			
		2-Methyloctanoic acid		0.15625		
1	Thyme oil	2-Methyloctanoic acid	0.15625	0.019531	0.13	0.38
2	Oregano oil	2-Methyloctanoic acid	0.15625	0.019531	0.13	0.25

Table 170: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Cinnamon leaf oil		0.625			
		2-Methyloctanoic acid		0.078125		
1	Cinnamon leaf oil	2-Methyloctanoic acid	0.3125	0.019531	0.06	0.75

Table 171: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Comp B/ Comp A	FIC Index
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	Thyme oil		0.625			
	Spearmint oil		1.25			
	Clove leaf oil		1.25			
	Cinnamon leaf oil		1.25			
		3-Methylhexanoic acid		0.125		
1	Thyme oil	3-Methylhexanoic acid	0.15625	0.03125	0.2	0.50
2	Spearmint oil	3-Methylhexanoic acid	0.625	0.03125	0.05	0.75
3	Clove leaf oil	3-Methylhexanoic acid	0.3125	0.03125	0.10	0.50
4	Cinnamon leaf oil	3-Methylhexanoic acid	0.3125	0.03125	0.10	0.50

Table 172: Growth inhibition of *Botrytis cinerea* by various botanical extract actives in combination with an exemplary alkyl-substituted aliphatic acid

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Peppermint oil		2.5			
	Spearmint oil		2.5			
		3-Methylhexanoic acid		0.125		
1	Peppermint oil	3-Methylhexanoic acid	1.25	0.03125	0.02	0.75
2	Spearmint oil	3-Methylhexanoic acid	0.3125	0.015625	0.05	0.25

Table 173: Growth inhibition of *Botrytis cinerea* by picoxystrobin, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Picoxystrobin		0.25			
		Trans-2-decenoic acid		0.019531		
		2-Hydroxybutyric acid		5		
		2-Hydroxyhexanoic acid		1.25		
		2-Hydroxyoctanoic acid		0.625		
		3-Hydroxybutyric acid		10		
		3-Hydroxyhexanoic acid		2.5		
		3-Hydroxyoctanoic acid		0.625		
		3-Hydroxydecanoic acid		0.0625		
		8-Hydroxyoctanoic acid		1.25		
		10-Hydroxydecanoic acid		0.25		
		12-Hydroxydodecanoic acid		0.1		
		2,2-Diethylbutanoic acid		0.25		
		2-Ethylhexanoic acid		0.15625		
		2-Methyloctanoic acid		0.039062		
		2-Methyldecanoic acid		0.0078125		
		3-Methylbutyric acid		0.3125		
		3-Methylhexanoic acid		0.125		
		3-Methylnonanoic acid		0.015625		
		4-Methylhexanoic acid		0.078125		
1	Picoxystrobin	Trans-2-decenoic acid	0.015625	0.004883	0.31	0.31

Table 174

2	Picoxystrobin	2-Hydroxybutyric acid	0.015625	0.625	40	0.19
3	Picoxystrobin	2-Hydroxyhexanoic acid	0.015625	0.3125	20	0.31
4	Picoxystrobin	2-Hydroxyoctanoic acid	0.015625	0.078125	5	0.19
5	Picoxystrobin	3-Hydroxybutyric acid	0.015625	1.25	80	0.19
6	Picoxystrobin	3-Hydroxyhexanoic acid	0.015625	0.3125	20	0.19
7	Picoxystrobin	3-Hydroxyoctanoic acid	0.03125	0.15625	5	0.38
8	Picoxystrobin	3-Hydroxydecanoic acid	0.015625	0.015625	1	0.31
9	Picoxystrobin	8-Hydroxyoctanoic acid	0.015625	0.3125	20	0.31
10	Picoxystrobin	10-Hydroxydecanoic acid	0.015625	0.0625	4	0.31
11	Picoxystrobin	12-Hydroxydodecanoic acid	0.03125	0.025	0.8	0.38
12	Picoxystrobin	2,2-Diethylbutanoic acid	0.015625	0.03125	2	0.19
13	Picoxystrobin	2-Ethylhexanoic acid	0.015625	0.019531	1.25	0.19
14	Picoxystrobin	2-Methyloctanoic acid	0.0078125	0.004883	0.6	0.16
15	Picoxystrobin	2-Methyldecanoic acid	0.015625	0.003906	0.25	0.56
16	Picoxystrobin	3-Methylbutyric acid	0.015625	0.078125	5	0.31
17	Picoxystrobin	3-Methylhexanoic acid	0.015625	0.015625	1	0.19
18	Picoxystrobin	3-Methylnonanoic acid	0.015625	0.001953	0.13	0.19
19	Picoxystrobin	4-Methylhexanoic acid	0.015625	0.019531	1.25	0.31

: Growth inhibition of *Botrytis cinerea* by picoxystrobin, in combination with various exemplary unsaturated aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Picoxystrobin		0.25			
		Decanoic acid		0.015625		
		Trans-2-hexenoic acid		0.15625		
	Picoxystrobin	Decanoic acid	0.03125	0.0078125	0.25	0.63
	Picoxystrobin	Trans-2-hexenoic acid	0.0625	0.019531	0.3	0.38

Table 175: Growth inhibition of *Botrytis cinerea* by mancozeb, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Mancozeb		0.03125			
		Trans-2-octenoic acid		0.039062		
		3-Decenoic acid		0.039062		
1	Mancozeb	Trans-2-octenoic acid	0.003906	0.019531	5	0.63
2	Mancozeb	3-Decenoic acid	0.003906	0.019531	5	0.63

Table 176: Growth inhibition of *Botrytis cinerea* by isopyrazam, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Isopyrazam		0.03125			
		Hexanoic acid		0.15625		
		Octanoic acid		0.3125		
		Decanoic acid		0.015625		
		Dodecanoic acid		0.05		
		2,4-Dihexenoic acid		0.125		
		5-Hexenoic acid		0.3125		
		7-Octenoic acid		0.3125		
		3-Nonenoic acid		0.078125		
		Trans-3-octenoic acid		0.039062		
		3-Decenoic acid		0.039062		
		9-Decenoic acid		0.078125		
		Oleic acid		5		
1	Isopyrazam	Hexanoic acid	0.0078125	0.03906	5	0.50
2	Isopyrazam	Octanoic acid	0.0078125	0.019531	2.5	0.31
3	Isopyrazam	Decanoic acid	0.0039062	0.0078125	2	0.63
4	Isopyrazam	Dodecanoic acid	0.0078125	0.0125	1.6	0.50
5	Isopyrazam	2,4-Dihexenoic acid	0.0078125	0.0625	8	0.75
6	Isopyrazam	5-Hexenoic acid	0.0078125	0.039062	5	0.38
7	Isopyrazam	7-Octenoic acid	0.0078125	0.019531	2.5	0.31
8	Isopyrazam	3-Nonenoic acid	0.0078125	0.019531	2.5	0.50
9	Isopyrazam	Trans-3-octenoic acid	0.0078125	0.019531	2.5	0.75
10	Isopyrazam	3-Decenoic acid	0.0078125	0.019531	2.5	0.75
11	Isopyrazam	9-Decenoic acid	0.0078125	0.019531	2.5	0.50
12	Isopyrazam	Oleic acid	0.03125	5	160	2.0

Table 177: Growth inhibition of *Botrytis cinerea* by oxathiapiprolin, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Oxathiapiprolin		0.5			
		12-Hydroxydodecanoic acid		0.1		
		2-Hydroxybutyric acid				
1	Oxathiapiprolin	12-Hydroxydodecanoic acid	0.125	0.025	0.2	0.50
2	Oxathiapiprolin	2-Hydroxybutyric acid	0.125	1.25	10	0.75

Table 178: Growth inhibition of *Botrytis cinerea* by penthiopyrad, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Penthiopyrad		0.25			
		Hexanoic acid		0.15625		
		Octanoic acid		0.3125		
		Nonanoic acid		0.078125		
		Decanoic acid		0.03125		
		Dodecanoic acid		0.05		
		(2E,4E)-2,4-Hexadienoic acid		0.125		
		Trans-2-hexenoic acid		0.3125		
		Trans-2-octenoic acid		0.078125		
		Trans-3-octenoic acid		0.078125		
		7-Octenoic acid		0.3125		
		Trans-2-nonenoic acid		0.15625		
		Trans-2-decenoic acid		0.078125		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.078125		
		Trans-2-undecenoic acid		0.039062		
		2-Hydroxybutyric acid		2.5		
		3-Hydroxybutyric acid		10		
		3-Hydroxyhexanoic acid		5		
		3-Hydroxyoctanoic acid		0.625		
		3-Hydroxydecanoic acid		0.125		
		8-Hydroxyoctanoic acid		2.5		
		12-Hydroxydodecanoic acid		0.1		
		2-Methyloctanoic acid		0.3125		
		2-Methyldecanoic acid		0.125		
		Oleic acid		5		
1	Penthiopyrad	Hexanoic acid	0.0625	0.039062	0.6	0.50
2	Penthiopyrad	Octanoic acid	0.0625	0.019531	0.3	0.31
3	Penthiopyrad	Nonanoic acid	0.0625	0.019531	0.3	0.50
4	Penthiopyrad	Decanoic acid	0.03125	0.0078125	0.25	0.38
5	Penthiopyrad	Dodecanoic acid	0.0625	0.0125	0.2	0.50
6	Penthiopyrad	(2E,4E)-2,4-Hexadienoic acid	0.0625	0.0625	1	0.75
7	Penthiopyrad	Trans-2-hexenoic acid	0.0625	0.019531	0.3	0.31
8	Penthiopyrad	Trans-2-octenoic acid	0.0625	0.019531	0.3	0.50
9	Penthiopyrad	Trans-3-octenoic acid	0.0625	0.019531	0.3	0.50
10	Penthiopyrad	7-Octenoic acid	0.0625	0.019531	0.3	0.31
11	Penthiopyrad	Trans-2-nonenoic acid	0.0625	0.009766	0.16	0.31
12	Penthiopyrad	Trans-2-decenoic acid	0.03125	0.004883	0.16	0.19
13	Penthiopyrad	3-Decenoic acid	0.0625	0.019531	0.3	0.50
14	Penthiopyrad	9-Decenoic acid	0.0625	0.019531	0.3	0.50
15	Penthiopyrad	Trans-2-undecenoic acid	0.0625	0.019531	0.3	0.63
16	Penthiopyrad	2-Hydroxybutyric acid	0.0625	1.25	20	0.75
17	Penthiopyrad	3-Hydroxybutyric acid	0.0625	2.5	40	0.50

Table 179:
Growth
inhibition

18	Penthiopyrad	3-Hydroxyhexanoic acid	0.0625	0.625	10	0.38
19	Penthiopyrad	3-Hydroxyoctanoic acid	0.0625	0.15625	2.5	0.50
20	Penthiopyrad	3-Hydroxydecanoic acid	0.0625	0.03125	0.5	0.50
21	Penthiopyrad	8-Hydroxyoctanoic acid	0.03125	0.3125	10	0.25
22	Penthiopyrad	12-Hydroxydodecanoic acid	0.0625	0.025	0.4	0.50
23	Penthiopyrad	2-Methyloctanoic acid	0.0625	0.019531	0.3	0.31
24	Penthiopyrad	2-Methyldecanoic acid	0.03125	0.0039062	0.13	0.16
25	Penthiopyrad	Oleic acid	0.125	2.5	20	1.0

tion of *Botrytis cinerea* by prothioconazole, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B / Compound A	FIC Index
	Prothioconazole		0.03125			
		2-Hydroxybutyric acid		2.5		
1	Prothioconazole	2-Hydroxybutyric acid	0.0078125	1.25	160	0.75

Table 180: Growth inhibition of *Botrytis cinerea* by trifloxystrobin, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B / Compound A	FIC Index
	Trifloxystrobin		0.25			
		Hexanoic acid		0.3125		
		Octanoic acid		0.625		
		Decanoic acid		0.03125		
		(2E,4E)-2,4-Hexadienoic acid		0.25		
		Trans-2-octenoic acid		0.078125		
		Trans-2-decenoic acid		0.15625		
		3-Decenoic acid		0.15625		
		9-Decenoic acid		0.15625		
		Trans-2-undecenoic acid		0.15625		
1	Trifloxystrobin	Hexanoic acid	0.03125	0.039062	1.25	0.25
2	Trifloxystrobin	Octanoic acid	0.03125	0.019531	0.6	0.16
3	Trifloxystrobin	Decanoic acid	0.03125	0.015625	0.5	0.63
4	Trifloxystrobin	(2E,4E)-2,4-Hexadienoic acid	0.03125	0.0625	2	0.38
5	Trifloxystrobin	Trans-2-octenoic acid	0.03125	0.019531	0.6	0.38
6	Trifloxystrobin	Trans-2-decenoic acid	0.03125	0.009766	0.3	0.19
7	Trifloxystrobin	3-Decenoic acid	0.03125	0.019531	0.6	0.25
8	Trifloxystrobin	9-Decenoic acid	0.03125	0.019531	0.6	0.25

9	Trifloxystrobin	Trans-2-undecenoic acid	0.03125	0.019531	0.6	0.25
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Table 181: Growth inhibition of *Botrytis cinerea* by trifloxystrobin, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Trifloxystrobin		0.25			
		Heptanoic acid		0.078125		
		Nonanoic acid		0.078125		
		2-Hydroxybutyric acid		2.5		
		2-hydroxyhexanoic acid		1.25		
		2-Hydroxydecanoic acid		0.3125		
		3-Hydroxybutyric acid		5		
		3-Hydroxyhexanoic acid		2.5		
		3-Hydroxyoctanoic acid		0.625		
		3-Hydroxydecanoic acid		0.125		
		8-Hydroxyoctanoic acid		1.25		
		10-Hydroxydecanoic acid		0.25		
		12-Hydroxydodecanoic acid		0.05		
		2,2-Diethylbutanoic acid		0.25		
		2-Ethylhexanoic acid		0.15625		
		2-Methyloctanoic acid		0.078125		
		2-Methyldecanoic acid		0.125		

		3-Methylbutyric acid		0.3125		
		3-Methylhexanoic acid		0.125		
		4-Methylhexanoic acid		0.078125		
1	Trifloxystrobin	Heptanoic acid	0.03125	0.019531	0.6	0.38
2	Trifloxystrobin	Nonanoic acid	0.015625	0.009766	0.6	0.19
3	Trifloxystrobin	2-Hydroxybutyric acid	0.03125	1.25	40	0.63
4	Trifloxystrobin	2-hydroxyhexanoic acid	0.03125	0.625	20	0.63
5	Trifloxystrobin	2-Hydroxydecanoic acid	0.03125	0.15625	5	0.63
6	Trifloxystrobin	3-Hydroxybutyric acid	0.03125	2.5	80	0.63
7	Trifloxystrobin	3-Hydroxyhexanoic acid	0.03125	0.625	20	0.38
8	Trifloxystrobin	3-Hydroxyoctanoic acid	0.03125	0.15625	5	0.38
9	Trifloxystrobin	3-Hydroxydecanoic acid	0.03125	0.03125	1	0.38
10	Trifloxystrobin	8-Hydroxyoctanoic acid	0.03125	0.625	20	0.63
11	Trifloxystrobin	10-Hydroxydecanoic acid	0.03125	0.125	4	0.63
12	Trifloxystrobin	12-Hydroxydodecanoic acid	0.03125	0.025	0.8	0.63
13	Trifloxystrobin	2,2-Diethylbutanoic acid	0.03125	0.0625	2	0.38
14	Trifloxystrobin	2-Ethylhexanoic acid	0.015625	0.019531	1.25	0.19
15	Trifloxystrobin	2-Methyloctanoic acid	0.015625	0.009766	0.6	0.19
16	Trifloxystrobin	2-Methyldecanoic acid	0.015625	0.003906 2	0.25	0.09
17	Trifloxystrobin	3-Methylbutyric acid	0.03125	0.15625	5	0.63
18	Trifloxystrobin	3-Methylhexanoic acid	0.03125	0.03125	1	0.38
19	Trifloxystrobin	4-Methylhexanoic acid	0.015625	0.019531	1.25	0.31

Table 182: Growth inhibition of *Alternaria solani* by picoxystrobin, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combina tion	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Picoxystrobin		0.5			
		Hexanoic acid		0.15625		
		Heptanoic acid		0.15625		
		Octanoic acid		0.15625		
		Nonanoic acid		0.15625		
		Decanoic acid		0.03125		
		Dodecanoic acid		0.1		
		(2E,4E)-2,4-Hexadienoic acid		0.125		
		Trans-3-hexenoic acid		0.3125		
		5-Hexenoic acid		0.3125		
		3-Heptenoic acid		0.3125		
		Trans-2-octenoic acid		0.078125		
		3-Octenoic acid		0.15625		
		Trans-3-octenoic acid		0.15625		
		Trans-2-nonenoic acid		0.078125		
		3-Nonenoic acid		0.078125		
		Trans-2-decenoic acid		0.078125		
		3-Decenoic acid		0.078125		
		9-Decenoic acid		0.03906		
		Trans-2-undecenoic acid		0.15625		
1	Picoxystrobin	Hexanoic acid	0.125	0.039062	0.3	0.50
2	Picoxystrobin	Heptanoic acid	0.0625	0.019531	0.3	0.25
3	Picoxystrobin	Octanoic acid	0.03125	0.019531	0.6	0.19
4	Picoxystrobin	Nonanoic acid	0.0625	0.009766	0.16	0.19
5	Picoxystrobin	Decanoic acid	0.0625	0.007812 5	0.13	0.38
6	Picoxystrobin	Dodecanoic acid	0.0625	0.0125	0.2	0.25
7	Picoxystrobin	(2E,4E)-2,4-Hexadienoic acid	0.0625	0.03125	0.5	0.38
8	Picoxystrobin	Trans-3-hexenoic acid	0.125	0.078125	0.6	0.50
9	Picoxystrobin	5-Hexenoic acid	0.125	0.078125	0.6	0.50
10	Picoxystrobin	3-Heptenoic acid	0.125	0.039062	0.3	0.38
11	Picoxystrobin	Trans-2-octenoic acid	0.125	0.019531	0.16	0.50
12	Picoxystrobin	3-Octenoic acid	0.125	0.039062	0.3	0.50
13	Picoxystrobin	Trans-3-octenoic acid	0.0625	0.019531	0.3	0.25
14	Picoxystrobin	Trans-2-nonenoic acid	0.03125	0.019531	0.6	0.31
15	Picoxystrobin	3-Nonenoic acid	0.0625	0.019531	0.3	0.38
16	Picoxystrobin	Trans-2-decenoic acid	0.125	0.039062	0.3	0.75
17	Picoxystrobin	3-Decenoic acid	0.0625	0.019531	0.3	0.38
18	Picoxystrobin	9-Decenoic acid	0.0625	0.019531	0.3	0.63
19	Picoxystrobin	Trans-2-undecenoic acid	0.0625	0.019531	0.3	0.25

Table 182: Growth inhibition of *Alternaria solani* by picoxystrobin, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combi nation	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
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					Compound A	
	Picoxystrobin		0.5			
		Trans-2-decenoic acid		0.039062		
		Cis-3-hexenoic acid		0.3125		
		7-Octenoic acid		0.15625		
		3-Hydroxyoctanoic acid		1.25		
		8-Hydroxyoctanoic acid		2.5		
		10-Hydroxydecanoic acid		1		
		12-Hydroxydodecanoic acid		0.1		
		2-Hydroxybutyric acid		2.5		
		2-Hydroxyoctanoic acid		0.625		
		2-Ethylhexanoic acid		0.15625		
		2-Methyloctanoic acid		0.15625		
		3-Methylhexanoic acid		0.25		
		3-Methylnonanoic acid		0.0625		
		4-Methylhexanoic acid		0.3125		
		2-Methyldecanoic acid		0.125		
1	Picoxystrobin	Trans-2-decenoic acid	0.0625	0.019531	0.3	0.63
2	Picoxystrobin	Cis-3-hexenoic acid	0.125	0.078125	0.6	0.50
3	Picoxystrobin	7-Octenoic acid	0.0625	0.019531	0.3	0.25
4	Picoxystrobin	3-Hydroxyoctanoic acid	0.125	0.15625	1.25	0.38
5	Picoxystrobin	8-Hydroxyoctanoic acid	0.125	0.625	5	0.50
6	Picoxystrobin	10-Hydroxydecanoic acid	0.125	0.125	1	0.38
7	Picoxystrobin	12-Hydroxydodecanoic acid	0.125	0.025	0.2	0.50
8	Picoxystrobin	2-Hydroxybutyric acid	0.125	0.625	5	0.50
9	Picoxystrobin	2-Hydroxyoctanoic acid	0.125	0.15625	1.25	0.50
10	Picoxystrobin	2-Ethylhexanoic acid	0.125	0.039062	0.3	0.50
11	Picoxystrobin	2-Methyloctanoic acid	0.0625	0.019531	0.3	0.25
12	Picoxystrobin	3-Methylhexanoic acid	0.125	0.03125	0.25	0.38
13	Picoxystrobin	3-Methylnonanoic acid	0.125	0.015625	0.13	0.50
14	Picoxystrobin	4-Methylhexanoic acid	0.125	0.039062	0.3	0.38
15	Picoxystrobin	2-Methyldecanoic acid	0.125	0.03125	0.25	0.50

Table 183: Growth inhibition of *Alternaria solani* by penthiopyrad, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Penthiopyrad		0.5			
		Octanoic acid		0.3125		
		Trans-2-nonenic acid		0.15625		
		Trans-3-octenoic acid		0.15625		
1	Penthiopyrad	Octanoic acid	0.0625	0.039062	0.6	0.25
2	Penthiopyrad	Trans-2-nonenic acid	0.125	0.078125	0.6	0.75
3	Penthiopyrad	Trans-3-octenoic acid	0.125	0.039062	0.3	0.50

Table 184: Growth inhibition of *Alternaria solani* by prothioconazole, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combina tion	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Prothioconazole		0.5			
		2-Hydroxybutyric acid		2.5		
		2-Hydroxyhexanoic acid		2.5		
		3-Hydroxybutyric acid		5		
		3-Hydroxyhexanoic acid		2.5		
		8-Hydroxyoctanoic acid		2.5		
		2-Ethylhexanoic acid		0.3125		
		3-Methylnonanoic acid		0.0625		
		2-Methyldecanoic acid		1		
		3-Methylbutyric acid		0.3125		
1	Prothioconazole	2-Hydroxybutyric acid	0.125	0.625	5	0.50
2	Prothioconazole	2-Hydroxyhexanoic acid	0.125	0.625	5	0.50
3	Prothioconazole	3-Hydroxybutyric acid	0.125	1.25	10	0.50
4	Prothioconazole	3-Hydroxyhexanoic acid	0.125	0.625	5	0.50
5	Prothioconazole	8-Hydroxyoctanoic acid	0.125	0.625	5	0.50
6	Prothioconazole	2-Ethylhexanoic acid	0.125	0.039062	0.3	0.38
7	Prothioconazole	3-Methylnonanoic acid	0.125	0.015625	0.13	0.50
8	Prothioconazole	2-Methyldecanoic acid	0.125	0.03125	0.25	0.28
9	Prothioconazole	3-Methylbutyric acid	0.125	0.078125	0.6	0.50

Table 185: Growth inhibition of *Alternaria solani* by mancozeb, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combina tion	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Mancozeb		0.5			
		Heptanoic acid		0.15625		
		2-Methyloctanoic acid		0.625		
		2-Methyldecanoic acid		1		
1	Mancozeb	Heptanoic acid	0.125	0.039062	0.3	0.50
2	Mancozeb	2-Methyloctanoic acid	0.125	0.039062	0.3	0.31
3	Mancozeb	2-Methyldecanoic acid	0.125	0.03125	0.25	0.28

Table 186: Growth inhibition of *Sclerotinia sclerotiorum* by picoxystrobin, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combina tion	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Picoxystrobin		0.5			
		Nonanoic acid		0.039062		
		Trans-2-octenoic acid		0.039062		
		3-Nonenoic acid		0.078125		
		3-Decenoic acid		0.15625		
1	Picoxystrobin	Nonanoic acid	0.125	0.019531	0.16	0.75
2	Picoxystrobin	Trans-2-octenoic acid	0.125	0.009766	0.08	0.50
3	Picoxystrobin	3-Nonenoic acid	0.125	0.019531	0.16	0.50
4	Picoxystrobin	3-Decenoic acid	0.125	0.019531	0.16	0.38

Table 187: Growth inhibition of *Sclerotinia sclerotiorum* by picoxystrobin, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combina tion	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Picoxystrobin		0.5			
		Trans-2-decenoic acid		0.019531		
		10-Hydroxydecanoic acid		0.5		
		2-Hydroxybutyric acid		5		
		2-Hydroxyoctanoic acid		0.625		
		2-Ethylhexanoic acid		0.15625		
		3-Methylbutyric acid		0.625		
1	Picoxystrobin	Trans-2-decenoic acid	0.125	0.004883	0.04	0.5
2	Picoxystrobin	10-Hydroxydecanoic acid	0.125	0.125	1	0.50
3	Picoxystrobin	2-Hydroxybutyric acid	0.125	1.25	10	0.50
4	Picoxystrobin	2-Hydroxyoctanoic acid	0.125	0.15625	1.25	0.50
5	Picoxystrobin	2-Ethylhexanoic acid	0.125	0.078125	0.625	0.75
6	Picoxystrobin	3-Methylbutyric acid	0.125	0.15625	1.25	0.50

Table 188: Growth inhibition of *Sclerotinia sclerotiorum* by penthiopyrad, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combina tion	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Penthiopyrad		0.5			
		Trans-3-hexenoic acid		0.3125		

Table

		3-Heptenoic acid		0.15625		
		Trans-2-nonenic acid		0.078125		
		3-Decenoic acid		0.15625		
		9-Decenoic acid		0.078125		
1	Penthiopyrad	Trans-3-hexenoic acid	0.125	0.039062	0.3	0.38
2	Penthiopyrad	3-Heptenoic acid	0.125	0.019531	0.16	0.38
3	Penthiopyrad	Trans-2-nonenic acid	0.125	0.019531	0.16	0.50
4	Penthiopyrad	3-Decenoic acid	0.125	0.019531	0.16	0.38
5	Penthiopyrad	9-Decenoic acid	0.125	0.019531	0.16	0.50

189: Growth inhibition of *Sclerotinia sclerotiorum* by prothioconazole, in combination with various exemplary saturated, unsaturated, and substituted aliphatic acids.

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/Compound A	FIC Index
	Prothioconazole		0.0625			
		2-Hydroxybutyric acid		5		
1	Prothioconazole	2-Hydroxybutyric acid	0.015625	1.25	80	0.50

Table 195: Expected and Observed Efficacy (%) of Entrust® SC (Spinosad AI) at 0.034 ppm (0.0019 ppm of spinosad) in combination with Unsaturated/Saturated Aliphatic Acid (salt) at 500 ppm

Treatment	Observed Efficacy, W (%)	Expected Efficacy, E (%)	Synergy Factor (W/E)
Entrust® SC @ 0.034 ppm (0.0019 ppm spinosad)	27.3	-	-
(2E,4E)-2,4 hexadienoic acid, K-salt	9.1	-	-
(2E,4E)-2,4 hexadienoic acid	4.5	-	-
Trans-2-hexenoic acid	0	-	-
Trans-3-hexenoic acid	0	-	-
Hexanoic acid	27.3	-	-
Octanoic acid	4.5	-	-
Octanoic acid, K-salt	0	-	-
Decanoic acid	0	-	-
Dodecanoic acid	0	-	-
5-hexenoic acid	0	-	-
7-octenoic acid	0	-	-
3-heptanoic acid	4.5	-	-
Trans-2 nonenoic acid	3.6	-	-
3-nonenoic acid	9.1	-	-

3-octenoic acid	0	-	-
Trans-3 octenoic acid	4.5	-	-
Trans-2 decenoic acid	0	-	-
3-decenoic acid	0	-	-
9-decenoic acid	4.5	-	-
Trans-2 undecenoic acid	27.3	-	-
Heptanoic acid	9.1	-	-
Nonanoic acid	0	-	-
Entrust® SC x (2E,4E)-2,4 hexadienoic acid, K-salt	40.9	33.9	1.21
Entrust® SC x (2E,4E)-2,4 hexadienoic acid	59.1	30.6	1.93
Entrust® SC x Trans-2-hexenoic acid	40.9	27.3	1.50
Entrust® SC x Trans-3-hexenoic acid	50.0	20.7	2.42
Entrust® SC x Hexanoic acid	73.7	47.1	1.54
Entrust® SC x Octanoic acid	63.6	30.6	2.08
Entrust® SC x Octanoic acid, K-salt	31.8	27.3	1.17
Entrust® SC x Decanoic acid	77.3	27.3	2.83
Entrust® SC x Dodecanoic acid	40.9	27.3	1.50
Entrust® SC x 5-hexenoic acid	40.9	27.3	1.50
Entrust® SC x 7-octenoic acid	45.5	27.3	1.67
Entrust® SC x 3-heptanoic acid	50.0	30.6	1.64
Entrust® SC x Trans-2 nonenoic acid	77.3	27.3	2.83
Entrust® SC x 3-nonenoic acid	81.8	33.9	2.41
Entrust® SC x 3-octenoic acid	63.6	27.3	2.33
Entrust® SC x Trans-3 octenoic acid	68.2	30.6	2.23
Entrust® SC x Trans-2 decenoic acid	68.2	27.3	2.50
Entrust® SC x 3-decenoic acid	77.3	27.3	2.83
Entrust® SC x 9-decenoic acid	90.9	30.6	2.97
Entrust® SC x Trans-2 undecenoic acid	95.5	47.1	2.03
Entrust® SC x Heptanoic acid	72.7	33.9	2.15
Entrust® SC x Nonanoic acid	81.8	27.3	3.00

EXAMPLES FROM SPECIFICATION OF PCT/CA2019/051388

Table 16: Growth inhibition of *Sclerotinia sclerotiorum* by pyraclostrobin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.0075			
		Hexanoic acid		0.039062		
		Heptanoic acid		0.039062		
		Octanoic acid		0.019531		
		Nonanoic acid		0.019531		
		Decanoic acid		0.15625		
		Dodecanoic acid		0.05		
		3-Hydroxybuturic acid		10		
		3-Hydroxyhexanoic acid		5		
		3-Hydroxydecanoic acid		0.125		
1	Pyraclostrobin	Hexanoic acid	9.375×10^{-4}	0.009765	10	0.38
2	Pyraclostrobin	Heptanoic acid	4.688×10^{-4}	0.004883	10	0.19
3	Pyraclostrobin	Octanoic acid	9.375×10^{-4}	0.004883	5	0.38
4	Pyraclostrobin	Nonanoic acid	4.688×10^{-4}	0.004883	10	0.31
5	Pyraclostrobin	Decanoic acid	9.375×10^{-4}	0.001953	2	0.14
6	Pyraclostrobin	Dodecanoic acid	9.375×10^{-4}	0.00625	7	0.25
7	Pyraclostrobin	3-Hydroxybuturic acid	2.930×10^{-5}	0.039062	1333	0.008
8	Pyraclostrobin	3-Hydroxyhexanoic acid	1.465×10^{-5}	0.009765	667	0.004
9	Pyraclostrobin	3-Hydroxydecanoic acid	2.930×10^{-5}	4.882×10^{-4}	17	0.008

Example 20: In-plant insecticidal efficacy against *Trichoplusia ni* by spinosad (active ingredient in Entrust® SC insecticide), in combination with an exemplary saturated aliphatic acid

Table 75: Expected and Observed Efficacy (%) of Entrust® SC (Spinosad AI) at 14.6, 3.65 and 1.46 ppm (3.29 ppm, 0.821 ppm, and 0.329 ppm of spinosad) in combination with an exemplary Aliphatic Acid at 100 ppm

Treatment	Observed Efficacy, W (%)	Expected Efficacy, E (%)	Synergy Factor (W/E)
Entrust® SC @ 14.6 ppm (3.29 ppm spinosad)	84.1	-	-
Entrust® SC @ 3.65 ppm (0.821 ppm spinosad)	40.9	-	-
Entrust® SC @ 1.46 ppm (0.329 ppm spinosad)	40.9	-	-
Octanoic acid @ 100 ppm	0	-	-
Entrust® SC @ 14.6 ppm x Octanoic acid @ 100 ppm	100	84.1	1.19
Entrust® SC @ 3.65 ppm x Octanoic acid @ 100 ppm	100	40.9	2.44
Entrust® SC @ 1.46 ppm x Octanoic acid @ 100 ppm	93.2	40.9	2.28

EXAMPLES FROM SPECIFICATION OF PCT/CA2020/051783 **Table 16:** Expected and Observed In-Planta Efficacy (%) of Coragen® insecticide (chlorantraniliprole active ingredient) at 0.57 ppm (0.104 ppm of chlorantraniliprole) in combination with exemplary aliphatic acids at 750 ppm

Treatment	Survival Rate (%)	Observed Efficacy, W (%)	Expected Efficacy, E (%)	Synergy Factor (W/E)
10% Isopropanol Control	64.00	-	-	-
Coragen® @ 0.57 ppm (0.104 ppm chlorantraniliprole)	40.50	36.72	-	-
10-hydroxydecanoic acid (750 ppm)	40.50	36.72	-	-
4-methylhexanoic acid (750 ppm)	62.50	2.34	-	-
2-aminobutyric acid (750 ppm)	58.50	8.59	-	-
Coragen® + 10-hydroxydecanoic acid	19.00	70.31	59.95	1.17
Coragen® + 4-methylhexanoic acid	35.00	45.31	38.20	1.19
Coragen® + 2-aminobutyric acid	27.50	57.03	42.16	1.35

EXAMPLES FROM PRESENTLY UNPUBLISHED DATA **Table 16:** Growth inhibition of *Sclerotinia sclerotiorum* by pyraclostrobin, in combination with various exemplary saturated aliphatic acids

Combination	Compound A	Compound B	MIC (A) (mg/mL)	MIC (B) (mg/mL)	Ratio Compound B/ Compound A	FIC Index
	Pyraclostrobin		0.0075			
		Hexanoic acid		0.039062		
		Heptanoic acid		0.039062		
		Octanoic acid		0.019531		
		Nonanoic acid		0.019531		
		Decanoic acid		0.15625		
		Dodecanoic acid		0.05		
		3-Hydroxybuturic acid		10		
		3-Hydroxyhexanoic acid		5		
		3-Hydroxydecanoic acid		0.125		
1	Pyraclostrobin	Hexanoic acid	9.375×10^{-4}	0.009765	10	0.38
2	Pyraclostrobin	Heptanoic acid	4.688×10^{-4}	0.004883	10	0.19
3	Pyraclostrobin	Octanoic acid	9.375×10^{-4}	0.004883	5	0.38
4	Pyraclostrobin	Nonanoic acid	4.688×10^{-4}	0.004883	10	0.31
5	Pyraclostrobin	Decanoic acid	9.375×10^{-4}	0.001953	2	0.14
6	Pyraclostrobin	Dodecanoic acid	9.375×10^{-4}	0.00625	7	0.25
7	Pyraclostrobin	3-Hydroxybuturic acid	2.930×10^{-5}	0.039062	1333	0.008
8	Pyraclostrobin	3-Hydroxyhexanoic acid	1.465×10^{-5}	0.009765	667	0.004
9	Pyraclostrobin	3-Hydroxydecanoic acid	2.930×10^{-5}	4.882×10^{-4}	17	0.008

Table 69A: Expected and Observed Efficacy (mortality) of Coragen® (chlorantraniliprole active ingredient) at 0.2525 ppm (0.04646 ppm of chlorantraniliprole) in combination with Unsaturated/Saturated Aliphatic Acid (salt) at 500 ppm, in-vitro against *Trichoplusia ni*.

Treatment	Survival Rate (100-mortality) (%)	Observed Efficacy (mortality), W (%)	Expected Efficacy (mortality), E (%)	Synergy Factor (W/E)
Water untreated control				
Coragen® @ 0.2525 ppm (0.04646 ppm chlorantraniliprole)	25.00	18.18	-	-
(2E,4E)-2,4 hexadienoic acid potassium salt	95.83	0.00	-	-
(2E,4E)-2,4 hexadienoic acid	83.33	9.09	-	-
trans-3-hexenoic acid	95.83	0.00	-	-
decanoic acid	83.33	9.09	-	-
dodecanoic acid	83.33	9.09	-	-
5-hexenoic acid	100.00	0.00	-	-
trans-2-nonenoic acid	79.17	13.64	-	-
trans-2-octenoic acid	70.83	22.73	-	-
3-octenoic acid	91.67	0.00	-	-
trans-3-octenoic acid	83.33	9.09	-	-
trans-2-decenoic acid	83.33	9.09	-	-
cis-3-hexenoic acid	91.67	0.00	-	-
9-decenoic acid	91.67	0.00	-	-
trans-2-undecenoic acid	91.67	0.00	-	-
heptanoic acid	91.67	0.00	-	-

3-hydroxybutyric acid	95.83	0.00	-	-
3-hydroxidecanoic acid	100.00	0.00	-	-
10-hydroxydecanoic acid	79.17	13.64	-	-
12-hydroxydodecanoic acid	95.83	0.00	-	-
2,2-diethylbutyric acid	95.83	0.00	-	-
2-ethylhexanoic acid	100.00	0.00	-	-
2-methyloctanoic acid	95.83	0.00	-	-
3-methylhexanoic acid	83.33	9.09	-	-
3-methylnonanoic acid	79.17	13.64	-	-
4-methylhexanoic acid	100.00	0.00	-	-
2-methyldecanoic acid	87.50	4.55	-	-
3-methylbutyric acid	91.67	0.00	-	-
2-hydroxyhexanoic acid	91.67	0.00	-	-
2-hydroxyoctanoic acid	100.00	0.00	-	-
Coragen® + (2E,4E)-2,4 hexadienoic acid potassium salt	70.83	22.73	18.18	1.25
Coragen® + (2E,4E)-2,4 hexadienoic acid	66.67	27.27	25.62	1.06
Coragen® + trans-3-hexenoic acid	62.50	31.82	18.18	1.75
Coragen® + decanoic acid	41.67	54.55	25.62	2.13
Coragen® + dodecanoic acid	54.17	40.91	25.62	1.60
Coragen® + 5-hexenoic acid	62.50	31.82	18.18	1.75
Coragen® + trans-2-nonenoic acid	58.33	36.36	29.34	1.24
Coragen® + trans-2-octenoic acid	54.17	40.91	36.78	1.11
Coragen® + 3-octenoic acid	61.31	33.12	18.18	1.82
Coragen® + trans-3-octenoic acid	54.17	40.91	25.62	1.60
Coragen® + trans-2-decenoic acid	37.50	59.09	25.62	2.31
Coragen® + cis-3-hexenoic acid	66.67	27.27	18.18	1.50
Coragen® + 9-decenoic acid	62.50	31.82	18.18	1.75

Coragen® + trans-2-undecenoic acid	50.00	45.45	18.18	2.50
Coragen® + heptanoic acid	54.17	40.91	18.18	2.25
Coragen® + 3-hydroxybutyric acid	70.83	22.73	18.18	1.25
Coragen® + 3-hydroxidecanoic acid	62.50	31.82	18.18	1.75
Coragen® + 10-hydroxydecanoic acid	33.33	63.64	29.34	2.17
Coragen® + 12-hydroxydodecanoic acid	58.33	36.36	18.18	2.00
Coragen® + 2,2-diethylbutyric acid	66.67	27.27	18.18	1.50
Coragen® + 2-ethylhexanoic acid	41.67	54.55	18.18	3.00
Coragen® + 2-methyloctanoic acid	62.50	31.82	18.18	1.75
Coragen® + 3-methylhexanoic acid	62.50	31.82	25.62	1.24
Coragen® + 3-methylnonanoic acid	50.00	45.45	29.34	1.55
Coragen® + 4-methylhexanoic acid	37.50	59.09	18.18	3.25
Coragen® + 2-methyldecanoic acid	58.33	36.36	21.90	1.66
Coragen® + 3-methylbutyric acid	50.00	45.45	18.18	2.50
Coragen® + 2-hydroxyhexanoic acid	58.33	36.36	18.18	2.00
Coragen® + 2-hydroxyoctanoic acid	70.83	22.73	18.18	1.25

Table 69B: Expected and Observed Efficacy (bioactivity (mortality + growth stunting)) of Coragen® (chlorantraniliprole active ingredient) at 0.2525 ppm (0.04646 ppm of chlorantraniliprole) in combination

with Unsaturated/Saturated Aliphatic Acid (salt) at 500 ppm, in-vitro against *Trichoplusia ni*.

Treatment	Survival Rate (100-(mortality+stunting)) (%)	Observed Efficacy (bioactivity), W (%)	Expected Efficacy (bioactivity), E (%)	Synergy Factor (W/E)
Water untreated control	87.50	-	-	-
Coragen® @ 0.2525 ppm (0.04646 ppm chlorantraniliprole)	58.33	33.33	-	-
(2E,4E)-2,4 hexadienoic acid potassium salt	95.83	0.00	-	-
(2E,4E)-2,4 hexadienoic acid	79.17	9.52	-	-
trans-2-hexenoic acid	91.67	0.00	-	-
trans-3-hexenoic acid	91.67	0.00	-	-
hexanoic acid	87.50	0.00	-	-
decanoic acid	83.33	4.76	-	-
dodecanoic acid	79.17	9.52	-	-
trans-2-hexenoic acid potassium salt	91.67	0.00	-	-
5-hexenoic acid	100.00	0.00	-	-
trans-2-nonenoic acid	75.00	14.29	-	-
trans-2-octenoic acid	70.83	19.05	-	-
3-octenoic acid	83.33	4.76	-	-
trans-3-octenoic acid	83.33	4.76	-	-
trans-2-decenoic acid	79.17	9.52	-	-
cis-3-hexenoic acid	83.33	4.76	-	-
9-decenoic acid	91.67	0.00	-	-
trans-2-undecenoic acid	87.50	0.00	-	-
heptanoic acid	91.67	0.00	-	-
nonanoic acid	95.83	0.00	-	-
3-hydroxybutyric acid	95.83	0.00	-	-
3-hydroxidecanoic acid	87.50	0.00	-	-
10-hydroxydecanoic acid	75.00	14.29	-	-
12-hydroxydodecanoic acid	91.67	0.00	-	-
2-ethylhexanoic acid	95.83	0.00	-	-
2-methyloctanoic acid	95.83	0.00	-	-

3-methylhexanoic acid	83.33	4.76	-	-
3-methylnonanoic acid	79.17	9.52	-	-
4-methylhexanoic acid	100.00	0.00	-	-
2-methyldecanoic acid	87.50	0.00	-	-
3-methylbutyric acid	91.67	0.00	-	-
2-hydroxyhexanoic acid	91.67	0.00	-	-
2-hydroxyoctanoic acid	100.00	0.00	-	-
Coragen® + (2E,4E)-2,4 hexadienoic acid potassium salt	54.17	38.10	33.33	1.14
Coragen® + (2E,4E)-2,4 hexadienoic acid	29.17	66.67	39.68	1.68
Coragen® + trans-2-hexenoic acid	50.00	42.86	33.33	1.29
Coragen® + trans-3-hexenoic acid	45.83	47.62	33.33	1.43
Coragen® + hexanoic acid	54.17	38.10	33.33	1.14
Coragen® + decanoic acid	25.00	71.43	36.51	1.96
Coragen® + dodecanoic acid	29.17	66.67	39.68	1.68
Coragen® + trans-2-hexenoic acid potassium salt	33.33	61.90	33.33	1.86
Coragen® + 5-hexenoic acid	50.00	42.86	33.33	1.29
Coragen® + trans-2-nonenic acid	45.83	47.62	42.86	1.11
Coragen® + trans-2-octenoic acid	25.00	71.43	46.03	1.55
Coragen® + 3-octenoic acid	40.48	53.74	36.51	1.47
Coragen® + trans-3-octenoic acid	29.17	66.67	36.51	1.83
Coragen® + trans-2-decenoic acid	33.33	61.90	39.68	1.56
Coragen® + cis-3-hexenoic acid	20.83	76.19	36.51	2.09
Coragen® + 9-decenoic acid	54.17	38.10	33.33	1.14
Coragen® + trans-2-undecenoic acid	0.00	100.00	33.33	3.00
Coragen® + heptanoic acid	25.00	71.43	33.33	2.14
Coragen® + nonanoic acid	54.17	38.10	33.33	1.14

Coragen® + 3-hydroxybutyric acid	16.67	80.95	33.33	2.43
Coragen® + 3-hydroxidecanoic acid	45.83	47.62	33.33	1.43
Coragen® + 10-hydroxydecanoic acid	20.83	76.19	42.86	1.78

Coragen® + 12-hydroxydodecanoic acid	41.67	52.38	33.33	1.57
Coragen® + 2-ethylhexanoic acid	29.17	66.67	33.33	2.00
Coragen® + 2-methyloctanoic acid	41.67	52.38	33.33	1.57
Coragen® + 3-methylhexanoic acid	41.67	52.38	36.51	1.43
Coragen® + 3-methylnonanoic acid	20.83	76.19	39.68	1.92
Coragen® + 4-methylhexanoic acid	25.00	71.43	33.33	2.14
Coragen® + 2-methyldecanoic acid	50.00	42.86	33.33	1.29
Coragen® + 3-methylbutyric acid	41.67	52.38	33.33	1.57
Coragen® + 2-hydroxyhexanoic acid	37.50	57.14	33.33	1.71
Coragen® + 2-hydroxyoctanoic acid	54.17	38.10	33.33	1.14

Table 70A: Expected and Observed Efficacy (mortality) of Coragen® (chlorantraniliprole active ingredient) at 0.505 ppm (0.09292 ppm of chlorantraniliprole) in combination with Unsaturated/Saturated Aliphatic Acid (salt) at 500 ppm, in-vitro against *Trichoplusia ni*.

Treatment	Survival Rate (100-mortality) (%)	Observed Efficacy (mortality), W (%)	Expected Efficacy (mortality), E (%)	Synergy Factor (W/E)
Water untreated control	95.83	-	-	-
Coragen® @ 0.505 ppm (0.09292 ppm chlorantraniliprole)	83.33	13.04	-	-
(2E,4E)-2,4 hexadienoic acid potassium salt	87.50	8.70	-	-
octanoic acid	100	0	-	-
trans-2-hexenoic acid potassium	83.33	13.04	-	-
salt				
3-heptenoic acid	95.83	0	-	-

trans-2-nonenic acid	100.00	0	-	-
3-nonenic acid	100.00	0	-	-
trans-2-octenoic acid	95.83	0	-	-
nonanoic acid	91.66	4.35	-	-
Coragen® + (2E,4E)-2,4 hexadienoic acid potassium salt	69.05	27.95	20.60	1.35
Coragen® + octanoic acid	58.33	39.13	13.04	3.00
Coragen® + trans-2-hexenoic acid potassium salt	62.50	34.78	24.39	1.43
Coragen® + 3-heptenoic acid	71.17	17.39	13.04	1.33
Coragen® + trans-2-nonenic acid	45.83	52.17	13.04	4.00
Coragen® + 3-nonenic acid	62.50	34.78	13.04	2.67
Coragen® + trans-2-octenoic acid	29.17	69.57	13.04	5.33
Coragen® + nonanoic acid	45.83	52.17	16.82	3.10

Table 70B: Expected and Observed Efficacy (bioactivity (mortality + growth stunting)) of Coragen® (chlorantraniliprole active ingredient) at 0.505 ppm (0.09292 ppm of chlorantraniliprole) in combination with Unsaturated/Saturated Aliphatic Acid (salt) at 500 ppm, in-vitro against *Trichoplusia ni*.

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Treatment	Survival Rate (100-(mortality + stunted)) (%)	Observed Efficacy (bioactivity), W (%)	Expected Efficacy (bioactivity), E (%)	Synergy Factor (W/E)
Water untreated control	95.83	-	-	-
Coragen® @ 0.505 ppm (0.09292 ppm chlorantraniliprole)	70.83	26.09	-	-
(2E,4E)-2,4 hexadienoic acid potassium salt	70.83	26.09	-	-
hexanoic acid	100	0	-	-
octanoic acid	95.83	0	-	-

trans-2-hexenoic acid potassium salt	83.33	13.04	-	-
3-heptenoic acid	95.83	0	-	-
trans-2-nonenic acid	100	0	-	-
3-nonenic acid	95.83	0	-	-
trans-2-octenoic acid	87.50	8.70	-	-

nonanoic acid	62.50	34.78	-	-
Coragen® + (2E,4E)-2,4 hexadienoic acid potassium salt	2.38	97.51	45.36	2.15
Coragen® + hexanoic acid	0	100	26.09	3.83
Coragen® + octanoic acid	0	100	26.09	3.83
Coragen® + trans-2-hexenoic acid potassium salt	0	100	35.73	2.80
Coragen® + 3-heptenoic acid	0	100	26.09	3.83
Coragen® + trans-2-nonenoic acid	0	100	26.09	3.83
Coragen® + 3-nonenoic acid	0	100	26.09	3.83
Coragen® + trans-2-octenoic acid	0	100	32.51	3.06
Coragen® + nonanoic acid	0	100	51.80	1.93

Table 71: Expected and Observed In-Planta Efficacy (%) of Coragen® insecticide (chlorantraniliprole active ingredient) at 0.57 ppm (0.105 ppm of chlorantraniliprole) in combination with exemplary aliphatic acids at 750 ppm

Treatment	Survival Rate (%)	Observed Efficacy, W (%)	Expected Efficacy, E (%)	Synergy Factor (W/E)
10% Isopropanol Control	69.50	-	-	-
Coragen® @ 0.57 ppm (0.105 ppm chlorantraniliprole)	39.00	43.88	-	-
trans-2-hexenoic acid (750 ppm)	56.50	18.71	-	-
trans-3-hexenoic acid (750 ppm)	64.50	7.19	-	-
Coragen® + trans-2-hexenoic acid	22.50	67.63	54.38	1.24
Coragen® + trans-3-hexenoic acid	27.50	60.43	47.92	1.26

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Table 72: Expected and Observed In-Planta Efficacy (%) of Coragen® insecticide (chlorantraniliprole active ingredient) at 0.57 ppm (0.104 ppm of chlorantraniliprole) in combination with exemplary aliphatic acids at 750 ppm

Treatment	Survival Rate (%)	Observed Efficacy, W (%)	Expected Efficacy, E (%)	Synergy Factor (W/E)
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10% Isopropanol Control	62.00	-	-	-
Coragen® @ 0.57 ppm (0.104 ppm chlorantraniliprole)	51.00	17.74	-	-
trans-2-octenoic acid (750 ppm)	77.00	0.00	-	-
trans-2-decenoic acid (750 ppm)	81.00	0.00	-	-
10-hydroxydecanoic acid (750 ppm)	73.50	0.00	-	-
Coragen® + trans-2-octenoic acid	27.50	55.65	17.74	3.14
Coragen® + trans-2-decenoic acid	31.00	50.00	17.74	2.82
Coragen® + 10-hydroxydecanoic acid	47.00	24.19	17.74	1.36

Example 21: In-planta insecticidal efficacy against *Trichoplusia ni* by chlorantraniliprole (active ingredient in Coragen® insecticide), in combination with several exemplary aliphatic acids

Table 73: Expected and Observed In-Planta Efficacy (%) of Coragen® insecticide

(chlorantraniliprole active ingredient) at 0.57 ppm (0.104 ppm of chlorantraniliprole) in combination with exemplary aliphatic acids at 750 ppm

Treatment	Survival Rate (%)	Observed Efficacy, W (%)	Expected Efficacy, E (%)	Synergy Factor (W/E)
10% Isopropanol Control	64.00	-	-	-
Coragen® @ 0.57 ppm (0.104 ppm chlorantraniliprole)	40.50	36.72	-	-
10-hydroxydecanoic acid (750 ppm)	40.50	36.72	-	-
4-methylhexanoic acid (750 ppm)	62.50	2.34	-	-
2-aminobutyric acid (750 ppm)	58.50	8.59	-	-
Coragen® + 10-hydroxydecanoic acid	19.00	70.31	59.95	1.17
Coragen® + 4-methylhexanoic acid	35.00	45.31	38.20	1.19
Coragen® + 2-aminobutyric acid	27.50	57.03	42.16	1.35

Example 22: In-planta insecticidal efficacy against *Trichoplusia ni* by cyantraniprole (active ingredient in Exirel® insecticide), in combination with several exemplary aliphatic acids

- 5 **Table 74:** Expected and Observed In-Planta Efficacy (%) of Exirel® insecticide (cyantraniliprole active ingredient) at 175 ppm (17.5 ppm of cyantraniliprole) in combination with exemplary aliphatic acids at 750 ppm

Treatment	Survival Rate (%)	Observed Efficacy, W (%)	Expected Efficacy, E (%)	Synergy Factor (W/E)
10% Isopropanol	66.1%	-	-	-
Exirel® @ 175 ppm (17.5 ppm cyantraniliprole)	32.4%	51.0%	-	-
Potassium Caprate @ 750 ppm	69.7%	5.5%	-	-
trans-2-Hexenoic acid, potassium salt @ 750 ppm	73.6%	11.3%	-	-
trans-3-Hexenoic acid, potassium salt @ 750 ppm	70.8%	7.1%	-	-
trans-2-decenoic acid @ 750 ppm	66.1%	0.0%	-	-
9-decenoic acid @ 750 ppm	65.8%	-0.4%	-	-
Exirel® + Potassium Caprate	3.6%	94.5%	56.4%	1.68
Exirel® + trans-2-Hexenoic acid, potassium salt	18.9%	71.4%	62.3%	1.15
Exirel® + trans-3-Hexenoic acid, potassium salt	6.1%	90.8%	58.1%	1.56
Exirel® + trans-2-decenoic acid	6.1%	90.8%	51.0%	1.78
Exirel® + 9-decenoic acid	23.1%	65.1%	50.6%	1.29

PREDICTIVE EXAMPLES FROM SPECIFICATION OF PCT/CA2019/051386

Example 24: Predicted synergistic efficacy for in vitro growth inhibition of *Fusarium oxysporum* by benzovindiflupyr, bixafen, boscalid, cyproconazole, fenpicoxamid, fenpyrazimine, florylpicoxamid,

flutriafol, fluxapyroxad, isopyrazam, isotianil, kresoxim-methyl, metrafenone, oxathiapiprolin, penflufen, penthiopyrad, picoxystrobin, prothioconazole, pydiflumetofen, revysol, sedaxane, trifloxystrobin, and valifenalate, in combination with various exemplary saturated and unsaturated C4-C12 aliphatic acids, according to an embodiment of the present disclosure.

A prediction of probability of synergistic efficacy for each combination of benzovindiflupyr, bixafen, boscalid, cyproconazole, fenpicoxamid, fenpyrazimine, florylpicoxamid, flutriafol, fluxapyroxad, isopyrazam, isotianil, kresoxim-methyl, metrafenone, oxathiapiprolin, penflufen, penthiopyrad, picoxystrobin, prothioconazole, pydiflumetofen, revysol, sedaxane, trifloxystrobin, and valifenalate (Compound A) and a saturated or unsaturated aliphatic acid (Compound B) compound was determined using a synergistic composition predictive model trained using an experimental in vitro synergistic efficacy dataset for in vitro growth inhibition of *Fusarium oxysporum*. The resulting synergistic efficacy predictions are shown in Table 89 below.

Table 89: Predicted synergistic efficacy for in vitro growth inhibition of *Fusarium oxysporum* by

benzovindiflupyr, bixafen, boscalid, cyproconazole, fenpicoxamid, fenpyrazimine, florylpicoxamid, flutriafol, fluxapyroxad, isopyrazam, isotianil, kresoxim-methyl, metrafenone, oxathiapiprolin, penflufen, penthiopyrad, picoxystrobin, prothioconazole, pydiflumetofen, revysol, sedaxane, trifloxystrobin, and valifenalate, in combination with various exemplary saturated and unsaturated C4-C12 aliphatic acids according to an embodiment of the present disclosure

Combination	Compound A	Compound B	Predicted Probability of Synergistic Efficacy	Synergistic Efficacy Prediction
1	Benzovindiflupyr	2-aminohexanoic acid	0.5767963	Likely
2	Benzovindiflupyr	2-hydroxyoctanoic acid	0.55433092	Likely
3	Benzovindiflupyr	3-hydroxydecanoic acid	0.55428505	Likely
4	Benzovindiflupyr	2-hydroxybutyric acid	0.55139626	Likely
5	Benzovindiflupyr	2-hydroxyhexanoic acid	0.55136665	Likely
6	Benzovindiflupyr	2-aminobutyric acid	0.55121322	Likely

7	Bixafen	2-aminohexanoic acid	0.5986134	Likely
8	Bixafen	3-hydroxydecanoic acid	0.59260478	Likely
9	Bixafen	2-hydroxyoctanoic acid	0.59127055	Likely
10	Bixafen	2-hydroxyhexanoic acid	0.58412244	Likely
11	Bixafen	3-hydroxyoctanoic acid	0.58250974	Likely
12	Bixafen	2-hydroxybutyric acid	0.58020663	Likely
13	Bixafen	2-aminobutyric acid	0.57291304	Likely
14	Bixafen	8-hydroxyoctanoic acid	0.55678314	Likely
15	Bixafen	3-hydroxyhexanoic acid	0.55412076	Likely
16	Boscalid	2-aminohexanoic acid	0.56465167	Likely
17	Boscalid	2-hydroxybutyric acid	0.55472363	Likely
18	Boscalid	2-hydroxyoctanoic acid	0.55112691	Likely
19	Cyproconazole	2-aminohexanoic acid	0.57628425	Likely
20	Fenpicoxamid	2-aminohexanoic acid	0.58695443	Likely
21	Fenpicoxamid	2-aminobutyric acid	0.56769621	Likely
22	Fenpicoxamid	2-hydroxybutyric acid	0.56525598	Likely
23	Fenpicoxamid	2-hydroxyhexanoic acid	0.55343788	Likely
24	Fenpyrazamine	2-aminohexanoic acid	0.59352859	Likely
25	Fenpyrazamine	3-hydroxydecanoic acid	0.58132785	Likely
26	Fenpyrazamine	2-aminobutyric acid	0.5700103	Likely
27	Fenpyrazamine	2-hydroxyoctanoic acid	0.55568954	Likely
28	Fenpyrazamine	8-hydroxyoctanoic acid	0.55427292	Likely
29	Fenpyrazamine	3-aminobutyric acid	0.55375423	Likely
30	Fenpyrazamine	3-hydroxyoctanoic acid	0.5508373	Likely
31	Florylpicoxamid	2-aminohexanoic acid	0.63476055	Likely
32	Florylpicoxamid	2-hydroxybutyric acid	0.61054637	Likely
33	Florylpicoxamid	2-aminobutyric acid	0.60774106	Likely
34	Florylpicoxamid	2-hydroxyhexanoic acid	0.60711867	Likely
35	Florylpicoxamid	2-hydroxyoctanoic acid	0.60666923	Likely
36	Florylpicoxamid	3-hydroxyoctanoic acid	0.59813283	Likely
37	Florylpicoxamid	3-hydroxydecanoic acid	0.58653796	Likely
38	Florylpicoxamid	3-hydroxyhexanoic acid	0.58024375	Likely
39	Florylpicoxamid	octanoic acid	0.57787609	Likely
40	Florylpicoxamid	heptanoic acid	0.57581491	Likely
41	Florylpicoxamid	hexanoic acid	0.57327745	Likely
42	Florylpicoxamid	decanoic acid	0.56412624	Likely
43	Florylpicoxamid	3-aminobutyric acid	0.56136031	Likely
44	Florylpicoxamid	3-hydroxybutyric acid	0.56075103	Likely
45	Florylpicoxamid	nonanoic acid	0.55557516	Likely
46	Florylpicoxamid	dodecanoic acid	0.55174383	Likely
47	Flutriafol	2-aminohexanoic acid	0.64187107	Likely
48	Flutriafol	2-aminobutyric acid	0.61206777	Likely

49	Flutriafol	2-hydroxybutyric acid	0.61086082	Likely
50	Flutriafol	2-hydroxyhexanoic acid	0.60704852	Likely
51	Flutriafol	2-hydroxyoctanoic acid	0.60100349	Likely
52	Flutriafol	3-hydroxydecanoic acid	0.59106896	Likely
53	Flutriafol	3-hydroxyoctanoic acid	0.58686044	Likely
54	Flutriafol	3-hydroxyhexanoic acid	0.56472518	Likely
55	Flutriafol	3-aminobutyric acid	0.55888988	Likely
56	Fluxapyroxad	2-aminohexanoic acid	0.65365264	Likely
57	Fluxapyroxad	2-hydroxyoctanoic acid	0.63406985	Likely
58	Fluxapyroxad	3-hydroxydecanoic acid	0.63228451	Likely
59	Fluxapyroxad	2-aminobutyric acid	0.63064658	Likely
60	Fluxapyroxad	2-hydroxybutyric acid	0.62910696	Likely
61	Fluxapyroxad	2-hydroxyhexanoic acid	0.62872769	Likely
62	Fluxapyroxad	3-hydroxyoctanoic acid	0.62480617	Likely
63	Fluxapyroxad	3-hydroxyhexanoic acid	0.59925105	Likely
64	Fluxapyroxad	3-aminobutyric acid	0.59057821	Likely
65	Fluxapyroxad	8-hydroxyoctanoic acid	0.58737963	Likely
66	Fluxapyroxad	octanoic acid	0.58452264	Likely
67	Fluxapyroxad	3-hydroxybutyric acid	0.5824682	Likely
68	Fluxapyroxad	heptanoic acid	0.58077161	Likely
69	Fluxapyroxad	10-hydroxydecanoic acid	0.57686063	Likely
70	Fluxapyroxad	nonanoic acid	0.57673815	Likely
71	Fluxapyroxad	hexanoic acid	0.57447241	Likely
72	Fluxapyroxad	decanoic acid	0.5742406	Likely
73	Fluxapyroxad	dodecanoic acid	0.56431965	Likely
74	Isopyrazam	2-aminohexanoic acid	0.59632861	Likely
75	Isopyrazam	3-hydroxydecanoic acid	0.58139259	Likely
76	Isopyrazam	2-hydroxyoctanoic acid	0.58047971	Likely
77	Isopyrazam	2-aminobutyric acid	0.57527404	Likely
78	Isopyrazam	2-hydroxyhexanoic acid	0.57359112	Likely
79	Isopyrazam	2-hydroxybutyric acid	0.57283605	Likely
80	Isopyrazam	3-hydroxyoctanoic acid	0.56890551	Likely
81	Isotianil	2-aminohexanoic acid	0.55867075	Likely
82	Kresoxim-methyl	2-aminohexanoic acid	0.67504148	Likely
83	Kresoxim-methyl	2-aminobutyric acid	0.65768701	Likely
84	Kresoxim-methyl	2-hydroxyhexanoic acid	0.65029321	Likely
85	Kresoxim-methyl	2-hydroxyoctanoic acid	0.64980065	Likely
86	Kresoxim-methyl	2-hydroxybutyric acid	0.64942813	Likely
87	Kresoxim-methyl	3-hydroxydecanoic acid	0.6411885	Likely
88	Kresoxim-methyl	3-hydroxyoctanoic acid	0.63833933	Likely
89	Kresoxim-methyl	3-aminobutyric acid	0.62326319	Likely
90	Kresoxim-methyl	3-hydroxyhexanoic acid	0.62174223	Likely

91	Kresoxim-methyl	octanoic acid	0.61937875	Likely
92	Kresoxim-methyl	heptanoic acid	0.6178017	Likely
93	Kresoxim-methyl	hexanoic acid	0.6141121	Likely
94	Kresoxim-methyl	nonanoic acid	0.61324196	Likely
95	Kresoxim-methyl	decanoic acid	0.6072263	Likely
96	Kresoxim-methyl	3-hydroxybutyric acid	0.60505759	Likely
97	Kresoxim-methyl	8-hydroxyoctanoic acid	0.5980929	Likely
98	Kresoxim-methyl	dodecanoic acid	0.59499285	Likely
99	Kresoxim-methyl	10-hydroxydecanoic acid	0.58491864	Likely
100	Metrafenone	2-aminohexanoic acid	0.55733598	Likely
101	Oxathiapiprolin	2-aminohexanoic acid	0.60657606	Likely
102	Oxathiapiprolin	2-aminobutyric acid	0.57620296	Likely
103	Oxathiapiprolin	2-hydroxybutyric acid	0.57121888	Likely
104	Oxathiapiprolin	2-hydroxyhexanoic acid	0.56699662	Likely
105	Oxathiapiprolin	2-hydroxyoctanoic acid	0.56303861	Likely
106	Oxathiapiprolin	3-hydroxydecanoic acid	0.55268361	Likely
107	Penflufen	2-aminohexanoic acid	0.65852257	Likely
108	Penflufen	3-hydroxydecanoic acid	0.64106452	Likely
109	Penflufen	2-aminobutyric acid	0.63676316	Likely
110	Penflufen	2-hydroxyoctanoic acid	0.63645035	Likely
111	Penflufen	3-hydroxyoctanoic acid	0.63215253	Likely
112	Penflufen	2-hydroxyhexanoic acid	0.62836813	Likely
113	Penflufen	2-hydroxybutyric acid	0.62790927	Likely
114	Penflufen	8-hydroxyoctanoic acid	0.61006622	Likely
115	Penflufen	3-aminobutyric acid	0.60708461	Likely
116	Penflufen	3-hydroxyhexanoic acid	0.60651148	Likely
117	Penflufen	octanoic acid	0.60432406	Likely
118	Penflufen	nonanoic acid	0.59918836	Likely
119	Penflufen	heptanoic acid	0.59838795	Likely
120	Penflufen	10-hydroxydecanoic acid	0.59837799	Likely
121	Penflufen	decanoic acid	0.59424908	Likely
122	Penflufen	3-hydroxybutyric acid	0.59419846	Likely
123	Penflufen	hexanoic acid	0.59271353	Likely
124	Penflufen	dodecanoic acid	0.5846236	Likely
125	Penthiopyrad	2-aminohexanoic acid	0.60944926	Likely
126	Penthiopyrad	2-hydroxyoctanoic acid	0.59583883	Likely
127	Penthiopyrad	3-hydroxydecanoic acid	0.59161762	Likely
128	Penthiopyrad	2-hydroxyhexanoic acid	0.58502914	Likely
129	Penthiopyrad	2-aminobutyric acid	0.58086249	Likely
130	Penthiopyrad	3-hydroxyoctanoic acid	0.57843716	Likely
131	Penthiopyrad	2-hydroxybutyric acid	0.57289048	Likely
132	Penthiopyrad	octanoic acid	0.56894523	Likely

133	Penthiopyrad	nonanoic acid	0.56465257	Likely
134	Penthiopyrad	heptanoic acid	0.56091047	Likely
135	Penthiopyrad	8-hydroxyoctanoic acid	0.55971519	Likely
136	Penthiopyrad	decanoic acid	0.55588841	Likely
137	Picoxystrobin	2-aminohexanoic acid	0.67534766	Likely
138	Picoxystrobin	2-hydroxybutyric acid	0.6576197	Likely
139	Picoxystrobin	2-aminobutyric acid	0.65465706	Likely
140	Picoxystrobin	2-hydroxyhexanoic acid	0.65034573	Likely
141	Picoxystrobin	2-hydroxyoctanoic acid	0.64606039	Likely
142	Picoxystrobin	3-hydroxydecanoic acid	0.62761118	Likely
143	Picoxystrobin	3-hydroxyoctanoic acid	0.62541364	Likely
144	Picoxystrobin	3-hydroxyhexanoic acid	0.60288031	Likely
145	Picoxystrobin	3-aminobutyric acid	0.60074316	Likely
146	Picoxystrobin	octanoic acid	0.59284889	Likely
147	Picoxystrobin	heptanoic acid	0.59142244	Likely
148	Picoxystrobin	3-hydroxybutyric acid	0.5895552	Likely
149	Picoxystrobin	hexanoic acid	0.58764771	Likely
150	Picoxystrobin	nonanoic acid	0.58643743	Likely
151	Picoxystrobin	decanoic acid	0.58045772	Likely
152	Picoxystrobin	dodecanoic acid	0.56836147	Likely
153	Picoxystrobin	8-hydroxyoctanoic acid	0.55987424	Likely
154	Prothiaconazole	2-aminohexanoic acid	0.55020457	Likely
155	Pydiflumetofen (Adepidyn)	2-aminohexanoic acid	0.59467448	Likely
156	Pydiflumetofen (Adepidyn)	2-aminobutyric acid	0.56779618	Likely
157	Pydiflumetofen (Adepidyn)	3-hydroxydecanoic acid	0.55150402	Likely
158	Pydiflumetofen (Adepidyn)	2-hydroxyoctanoic acid	0.55106064	Likely
159	Revysol	2-aminohexanoic acid	0.63962624	Likely
160	Revysol	2-aminobutyric acid	0.6040647	Likely
161	Revysol	2-hydroxyhexanoic acid	0.57211448	Likely
162	Revysol	2-hydroxybutyric acid	0.57152455	Likely
163	Revysol	2-hydroxyoctanoic acid	0.5706463	Likely
164	Revysol	3-hydroxyoctanoic acid	0.5657302	Likely
165	Revysol	3-hydroxydecanoic acid	0.56351714	Likely
166	Revysol	3-aminobutyric acid	0.55580375	Likely
167	Revysol	octanoic acid	0.55272278	Likely
168	Revysol	decanoic acid	0.55074132	Likely
169	Sedaxane	2-aminohexanoic acid	0.61273053	Likely
170	Sedaxane	2-hydroxybutyric acid	0.60053037	Likely
171	Sedaxane	2-aminobutyric acid	0.59536255	Likely

172	Sedaxane	3-hydroxydecanoic acid	0.58749265	Likely
173	Sedaxane	2-hydroxyhexanoic acid	0.58642283	Likely
174	Sedaxane	2-hydroxyoctanoic acid	0.58351983	Likely
175	Sedaxane	3-hydroxyoctanoic acid	0.58184892	Likely
176	Sedaxane	3-aminobutyric acid	0.57278869	Likely
177	Sedaxane	3-hydroxyhexanoic acid	0.56216563	Likely
178	Sedaxane	3-hydroxybutyric acid	0.55541366	Likely
179	Trifloxystrobin	2-hydroxyoctanoic acid	0.65884011	Likely
180	Trifloxystrobin	2-hydroxyhexanoic acid	0.6587482	Likely
181	Trifloxystrobin	2-aminobutyric acid	0.65764501	Likely
182	Trifloxystrobin	2-hydroxybutyric acid	0.65679943	Likely
183	Trifloxystrobin	3-hydroxydecanoic acid	0.64921461	Likely
184	Trifloxystrobin	3-hydroxyoctanoic acid	0.64454011	Likely
185	Trifloxystrobin	3-hydroxyhexanoic acid	0.62748345	Likely
186	Trifloxystrobin	3-aminobutyric acid	0.62415011	Likely
187	Trifloxystrobin	octanoic acid	0.6218323	Likely
188	Trifloxystrobin	heptanoic acid	0.62072241	Likely
189	Trifloxystrobin	hexanoic acid	0.61619104	Likely
190	Trifloxystrobin	nonanoic acid	0.61475129	Likely
191	Trifloxystrobin	3-hydroxybutyric acid	0.61418406	Likely
192	Trifloxystrobin	decanoic acid	0.60804051	Likely
193	Trifloxystrobin	dodecanoic acid	0.59491928	Likely
194	Trifloxystrobin	8-hydroxyoctanoic acid	0.59290993	Likely
195	Trifloxystrobin	10-hydroxydecanoic acid	0.57914078	Likely
196	Valifenalate	2-aminohexanoic acid	0.5944192	Likely
197	Valifenalate	2-aminobutyric acid	0.56510459	Likely
198	Valifenalate	2-hydroxyoctanoic acid	0.55897016	Likely
199	Valifenalate	3-hydroxydecanoic acid	0.55603569	Likely

Example 25: Predicted synergistic efficacy for in vitro growth inhibition of *Sclerotinia sclerotiorum* by bixafen, boscalid, cyproconazole, fenpicoxamid, fenpyrazimine, florylpicoxamid, flutriafol, fluxapyroxad, isopyrazam, isotianil, kresoxim-methyl, metrafenone, penflufen, penthiopyrad, picoxystrobin, pydiflumetofen, revysol, trifloxystrobin, and valifenalate, in combination with various exemplary saturated and unsaturated C4-C12 aliphatic acids, according to an embodiment of the present disclosure.

Table 90: Predicted synergistic efficacy for in vitro growth inhibition of *Sclerotinia sclerotiorum* by bixafen, boscalid, fenpicoxamid, fenpyrazimine, florylpicoxamid, fluxapyroxad, isotianil, kresoxim-methyl, metrafenone, oxathiapiprolin, penflufen, penthiopyrad, picoxystrobin, prothioconazole, pydiflumetofen, revysol, sedaxane, trifloxystrobin, and valifenalate, in combination with various

exemplary C4-C12 saturated and unsaturated aliphatic acids according to an embodiment of the present disclosure

Combination	Compound A	Compound B	Predicted Probability of Synergistic Efficacy	Synergistic Efficacy Prediction
1	Bixafen	trans-2-nonenoic acid	0.63422002	Likely
2	Bixafen	trans-2-undecenoic acid	0.61975961	Likely
3	Bixafen	trans-2-decenoic acid	0.61877499	Likely
4	Bixafen	trans-2-octenoic acid	0.59647564	Likely
5	Bixafen	3-decenoic acid	0.56026628	Likely
6	Boscalid	trans-2-undecenoic acid	0.64000795	Likely
7	Boscalid	trans-2-decenoic acid	0.63932319	Likely
8	Boscalid	trans-2-nonenoic acid	0.63189319	Likely
9	Boscalid	trans-2-octenoic acid	0.6128523	Likely
10	Boscalid	3-decenoic acid	0.56328052	Likely
11	Boscalid	dodecanoic acid	0.5582064	Likely
12	Boscalid	decanoic acid	0.5560983	Likely
13	Boscalid	nonanoic acid	0.55505839	Likely
14	Boscalid	octanoic acid	0.55438775	Likely
15	Boscalid	3-nonenoic acid	0.55383059	Likely
16	Fenpicoxamid	trans-2-undecenoic acid	0.64517585	Likely
17	Fenpicoxamid	trans-2-decenoic acid	0.64430379	Likely
18	Fenpicoxamid	trans-2-nonenoic acid	0.63685218	Likely
19	Fenpicoxamid	trans-2-octenoic acid	0.61571277	Likely
20	Fenpicoxamid	3-decenoic acid	0.5717719	Likely
21	Fenpicoxamid	dodecanoic acid	0.56812335	Likely
22	Fenpicoxamid	decanoic acid	0.56706998	Likely
23	Fenpicoxamid	nonanoic acid	0.5660589	Likely
24	Fenpicoxamid	octanoic acid	0.56546112	Likely
25	Fenpicoxamid	heptanoic acid	0.56213194	Likely
26	Fenpicoxamid	3-nonenoic acid	0.56106859	Likely
27	Fenpyrazamine	trans-2-undecenoic acid	0.64570129	Likely
28	Fenpyrazamine	trans-2-decenoic acid	0.64445113	Likely
29	Fenpyrazamine	trans-2-nonenoic acid	0.64373701	Likely
30	Fenpyrazamine	trans-2-octenoic acid	0.61870502	Likely
31	Fenpyrazamine	3-decenoic acid	0.57072864	Likely
32	Fenpyrazamine	dodecanoic acid	0.56926688	Likely
33	Fenpyrazamine	decanoic acid	0.56696534	Likely
34	Fenpyrazamine	nonanoic acid	0.56557274	Likely

35	Fenpyrazamine	octanoic acid	0.56470615	Likely
36	Fenpyrazamine	3-nonenoic acid	0.56308404	Likely
37	Fenpyrazamine	heptanoic acid	0.56026874	Likely
38	Fenpyrazamine	trans-2-hexenoic acid	0.55896424	Likely
39	Fenpyrazamine	9-decenoic acid	0.55287297	Likely
40	Florylpicoxamid	trans-2-undecenoic acid	0.66003401	Likely
41	Florylpicoxamid	trans-2-decenoic acid	0.65861813	Likely
42	Florylpicoxamid	trans-2-nonenoic acid	0.65382792	Likely
43	Florylpicoxamid	trans-2-octenoic acid	0.63490106	Likely
44	Florylpicoxamid	3-decenoic acid	0.58621619	Likely
45	Florylpicoxamid	dodecanoic acid	0.5781119	Likely
46	Florylpicoxamid	3-nonenoic acid	0.57620949	Likely
47	Florylpicoxamid	trans-2-hexenoic acid	0.57501872	Likely
48	Florylpicoxamid	nonanoic acid	0.57407232	Likely
49	Florylpicoxamid	decanoic acid	0.5728504	Likely
50	Florylpicoxamid	octanoic acid	0.5696201	Likely
51	Florylpicoxamid	heptanoic acid	0.56792373	Likely
52	Florylpicoxamid	3-octenoic acid	0.55302533	Likely
53	Florylpicoxamid	hexanoic acid	0.55097026	Likely
54	Fluxapyroxad	trans-2-undecenoic acid	0.66353832	Likely
55	Fluxapyroxad	trans-2-decenoic acid	0.66228828	Likely
56	Fluxapyroxad	trans-2-nonenoic acid	0.65719566	Likely
57	Fluxapyroxad	trans-2-octenoic acid	0.63807777	Likely
58	Fluxapyroxad	3-decenoic acid	0.58704056	Likely
59	Fluxapyroxad	3-nonenoic acid	0.57704323	Likely
60	Fluxapyroxad	trans-2-hexenoic acid	0.56795649	Likely
61	Fluxapyroxad	dodecanoic acid	0.56294662	Likely
62	Fluxapyroxad	decanoic acid	0.56026234	Likely
63	Fluxapyroxad	nonanoic acid	0.55851251	Likely
64	Fluxapyroxad	octanoic acid	0.55714217	Likely
65	Fluxapyroxad	3-octenoic acid	0.55502918	Likely
66	Fluxapyroxad	trans-3-octenoic acid	0.55502918	Likely
67	Fluxapyroxad	heptanoic acid	0.5533742	Likely
68	Isotianil	trans-2-undecenoic acid	0.58734897	Likely
69	Isotianil	trans-2-decenoic acid	0.5861208	Likely
70	Isotianil	trans-2-nonenoic acid	0.57581536	Likely
71	Isotianil	trans-2-octenoic acid	0.55436011	Likely
72	Kresoxim-methyl	trans-2-undecenoic acid	0.69437059	Likely
73	Kresoxim-methyl	trans-2-nonenoic acid	0.68996981	Likely
74	Kresoxim-methyl	trans-2-decenoic acid	0.68445944	Likely
75	Kresoxim-methyl	trans-2-octenoic acid	0.67452894	Likely
76	Kresoxim-methyl	dodecanoic acid	0.63170701	Likely

77	Kresoxim-methyl	3-decenoic acid	0.62730097	Likely
78	Kresoxim-methyl	nonanoic acid	0.62720372	Likely
79	Kresoxim-methyl	decanoic acid	0.62517832	Likely
80	Kresoxim-methyl	octanoic acid	0.62229298	Likely
81	Kresoxim-methyl	heptanoic acid	0.61779979	Likely
82	Kresoxim-methyl	3-nonenoic acid	0.61715368	Likely
83	Kresoxim-methyl	trans-2-hexenoic acid	0.616918	Likely
84	Kresoxim-methyl	hexanoic acid	0.59974539	Likely
85	Kresoxim-methyl	3-octenoic acid	0.59338092	Likely
86	Kresoxim-methyl	9-decenoic acid	0.58882145	Likely
87	Kresoxim-methyl	3-heptenoic acid	0.5842284	Likely
88	Kresoxim-methyl	trans-3-octenoic acid	0.58338154	Likely
89	Kresoxim-methyl	2-ethylhexanoic acid	0.58021401	Likely
90	Kresoxim-methyl	3-methylnonanoic acid	0.57904676	Likely
91	Kresoxim-methyl	2-methyloctanoic acid	0.57545126	Likely
92	Kresoxim-methyl	2-methyldecanoic acid	0.57396175	Likely
93	Kresoxim-methyl	7-octenoic acid	0.56941623	Likely
94	Kresoxim-methyl	2-hydroxyoctanoic acid	0.56689941	Likely
95	Kresoxim-methyl	2-aminohexanoic acid	0.56447951	Likely
96	Metrafenone	trans-2-undecenoic acid	0.64443278	Likely
97	Metrafenone	trans-2-decenoic acid	0.64366354	Likely
98	Metrafenone	trans-2-nonenoic acid	0.63731814	Likely
99	Metrafenone	trans-2-octenoic acid	0.61913326	Likely
100	Metrafenone	3-decenoic acid	0.56409456	Likely
101	Metrafenone	dodecanoic acid	0.55737829	Likely
102	Metrafenone	trans-2-hexenoic acid	0.55535108	Likely
103	Metrafenone	3-nonenoic acid	0.55484796	Likely
104	Metrafenone	decanoic acid	0.55289211	Likely
105	Metrafenone	nonanoic acid	0.55017602	Likely
106	Penflufen	trans-2-undecenoic acid	0.64399335	Likely
107	Penflufen	trans-2-decenoic acid	0.64252008	Likely
108	Penflufen	trans-2-nonenoic acid	0.62746654	Likely
109	Penflufen	trans-2-octenoic acid	0.61407125	Likely
110	Penflufen	dodecanoic acid	0.57058068	Likely
111	Penflufen	decanoic acid	0.56765798	Likely
112	Penflufen	nonanoic acid	0.56592093	Likely
113	Penflufen	octanoic acid	0.56437438	Likely
114	Penflufen	3-decenoic acid	0.56411505	Likely
115	Penflufen	3-nonenoic acid	0.56120105	Likely
116	Penflufen	heptanoic acid	0.55998814	Likely
117	Penthiopyrad	trans-2-decenoic acid	0.60351946	Likely
118	Penthiopyrad	trans-2-octenoic acid	0.57867577	Likely

119	Picoxystrobin	trans-2-decenoic acid	0.6041138	Likely
120	Picoxystrobin	trans-2-undecenoic acid	0.60380391	Likely
121	Picoxystrobin	trans-2-nonenoic acid	0.60102845	Likely
122	Picoxystrobin	trans-2-octenoic acid	0.58557471	Likely
123	Pydiflumetofen (Adepidyn)	trans-2-undecenoic acid	0.62980278	Likely
124	Pydiflumetofen (Adepidyn)	trans-2-decenoic acid	0.62913683	Likely
125	Pydiflumetofen (Adepidyn)	trans-2-nonenoic acid	0.6215863	Likely
126	Pydiflumetofen (Adepidyn)	trans-2-octenoic acid	0.59947248	Likely
127	Pydiflumetofen (Adepidyn)	dodecanoic acid	0.55658742	Likely
128	Pydiflumetofen (Adepidyn)	decanoic acid	0.55425756	Likely
129	Pydiflumetofen (Adepidyn)	nonanoic acid	0.55224037	Likely
130	Pydiflumetofen (Adepidyn)	octanoic acid	0.55034847	Likely
131	Revysol	trans-2-undecenoic acid	0.57872331	Likely
132	Revysol	trans-2-decenoic acid	0.57789835	Likely
133	Revysol	trans-2-nonenoic acid	0.57143113	Likely
134	Revysol	trans-2-octenoic acid	0.55187153	Likely
135	Trifloxystrobin	trans-2-octenoic acid	0.65344118	Likely
136	Trifloxystrobin	dodecanoic acid	0.60296979	Likely
137	Trifloxystrobin	3-decenoic acid	0.60065202	Likely
138	Trifloxystrobin	decanoic acid	0.59917673	Likely
139	Trifloxystrobin	nonanoic acid	0.59665176	Likely
140	Trifloxystrobin	octanoic acid	0.59411821	Likely
141	Trifloxystrobin	trans-2-hexenoic acid	0.58938381	Likely
142	Trifloxystrobin	3-nonenoic acid	0.58652177	Likely
143	Trifloxystrobin	heptanoic acid	0.58451477	Likely
144	Trifloxystrobin	3-octenoic acid	0.56976633	Likely
145	Trifloxystrobin	9-decenoic acid	0.56827708	Likely
146	Trifloxystrobin	trans-3-octenoic acid	0.56589124	Likely
147	Trifloxystrobin	hexanoic acid	0.56398016	Likely
148	Trifloxystrobin	3-heptenoic acid	0.56110153	Likely
149	Trifloxystrobin	3-methylnonanoic acid	0.55144026	Likely
150	Valifenalate	trans-2-octenoic acid	0.62518207	Likely
151	Valifenalate	3-decenoic acid	0.57403389	Likely
152	Valifenalate	trans-2-hexenoic acid	0.57030915	Likely
153	Valifenalate	nonanoic acid	0.5635556	Likely
154	Valifenalate	dodecanoic acid	0.56304971	Likely
155	Valifenalate	decanoic acid	0.55918886	Likely
156	Valifenalate	octanoic acid	0.55868943	Likely
157	Valifenalate	heptanoic acid	0.55620831	Likely
158	Valifenalate	3-nonenoic acid	0.55386801	Likely

Example 26: Predicted synergistic efficacy for in vitro growth inhibition of *Botritis cinerea* by bixafen, fenpicoxamid, florylpicoxamid, fluxapyroxad, kresoxim-methyl, picoxystrobin, pydiflumetofen, revysol, trifloxystrobin, and valifenalate, in combination with various exemplary saturated and unsaturated C4-C12 aliphatic acids, according to an embodiment of the present disclosure.

- 5 **Table 91:** Predicted synergistic efficacy for in vitro growth inhibition of *Botritis cinerea* by bixafen, fenpicoxamid, florylpicoxamid, fluxapyroxad, kresoxim-methyl, picoxystrobin, pydiflumetofen, revysol, trifloxystrobin, and valifenalate, in combination with various exemplary saturated and unsaturated C4-C12 aliphatic acids

Combination	Compound A	Compound B	Predicted Probability of Synergistic Efficacy	Synergistic Efficacy Prediction
1	Bixafen	9-decenoic acid	0.55622956	Likely
2	Bixafen	decanoic acid	0.55589771	Likely
3	Bixafen	octanoic acid	0.55586089	Likely
4	Bixafen	nonanoic acid	0.55584134	Likely
5	Bixafen	dodecanoic acid	0.55552297	Likely
6	Fenpicoxamid	nonanoic acid	0.62459222	Likely
7	Fenpicoxamid	octanoic acid	0.61360456	Likely
8	Fenpicoxamid	decanoic acid	0.61240222	Likely
9	Fenpicoxamid	dodecanoic acid	0.61135991	Likely
10	Fenpicoxamid	heptanoic acid	0.61086404	Likely
11	Fenpicoxamid	9-decenoic acid	0.60419807	Likely
12	Fenpicoxamid	7-octenoic acid	0.58622763	Likely
13	Fenpicoxamid	hexanoic acid	0.58429749	Likely
14	Fenpicoxamid	8-hydroxyoctanoic acid	0.57570006	Likely
15	Fenpicoxamid	10-hydroxydecanoic acid	0.57503872	Likely
16	Fenpicoxamid	12-hydroxydodecanoic acid	0.57498789	Likely
17	Fenpicoxamid	3-methylnonanoic acid	0.55528876	Likely
18	Fenpicoxamid	5-hexenoic acid	0.55508957	Likely
19	Florylpicoxamid	decanoic acid	0.71071466	Likely
20	Florylpicoxamid	nonanoic acid	0.71019579	Likely
21	Florylpicoxamid	dodecanoic acid	0.70658516	Likely
22	Florylpicoxamid	octanoic acid	0.70647826	Likely
23	Florylpicoxamid	heptanoic acid	0.6966848	Likely
24	Florylpicoxamid	9-decenoic acid	0.69075607	Likely
25	Florylpicoxamid	8-hydroxyoctanoic acid	0.68890783	Likely
26	Florylpicoxamid	12-hydroxydodecanoic acid	0.68347669	Likely

27	Florylpicoxamid	10-hydroxydecanoic acid	0.6833026	Likely
28	Florylpicoxamid	7-octenoic acid	0.68061823	Likely
29	Florylpicoxamid	hexanoic acid	0.68034807	Likely
30	Florylpicoxamid	5-hexenoic acid	0.63863994	Likely
31	Florylpicoxamid	3-methylnonanoic acid	0.63745326	Likely
32	Florylpicoxamid	trans-2-undecenoic acid	0.63357106	Likely
33	Florylpicoxamid	trans-2-decenoic acid	0.62787411	Likely
34	Florylpicoxamid	3-decenoic acid	0.61742779	Likely
35	Florylpicoxamid	trans-2-nonenoic acid	0.61304636	Likely
36	Florylpicoxamid	3-nonenoic acid	0.6103797	Likely
37	Florylpicoxamid	3-methylhexanoic acid	0.60093858	Likely
38	Florylpicoxamid	3-heptenoic acid	0.5967274	Likely
39	Florylpicoxamid	trans-2-octenoic acid	0.59637633	Likely
40	Florylpicoxamid	3-octenoic acid	0.59633581	Likely
41	Florylpicoxamid	trans-3-octenoic acid	0.59633581	Likely
42	Florylpicoxamid	trans-2-hexenoic acid	0.57528369	Likely
43	Florylpicoxamid	trans-3-hexenoic acid	0.56214715	Likely
44	Florylpicoxamid	cis-3-hexenoic acid	0.56185557	Likely
45	Florylpicoxamid	4-hexenoic acid	0.55965197	Likely
46	Florylpicoxamid	2-methyloctanoic acid	0.55344194	Likely
47	Florylpicoxamid	2-methyldecanoic acid	0.55045301	Likely
48	Florylpicoxamid	3-methylbutyric acid	0.55003294	Likely
49	Fluxapyroxad	9-decenoic acid	0.57082343	Likely
50	Fluxapyroxad	decanoic acid	0.5582246	Likely
51	Fluxapyroxad	dodecanoic acid	0.55812293	Likely
52	Fluxapyroxad	octanoic acid	0.55790607	Likely
53	Kresoxim-methyl	9-decenoic acid	0.65007721	Likely
54	Kresoxim-methyl	dodecanoic acid	0.64561872	Likely
55	Kresoxim-methyl	decanoic acid	0.64533766	Likely
56	Kresoxim-methyl	octanoic acid	0.64519368	Likely
57	Kresoxim-methyl	nonanoic acid	0.64517309	Likely
58	Kresoxim-methyl	heptanoic acid	0.63135262	Likely
59	Kresoxim-methyl	7-octenoic acid	0.63015161	Likely
60	Kresoxim-methyl	8-hydroxyoctanoic acid	0.62234793	Likely
61	Kresoxim-methyl	12-hydroxydodecanoic acid	0.62204227	Likely
62	Kresoxim-methyl	10-hydroxydecanoic acid	0.62185931	Likely
63	Kresoxim-methyl	hexanoic acid	0.61156485	Likely
64	Kresoxim-methyl	5-hexenoic acid	0.58608413	Likely
65	Kresoxim-methyl	3-methylnonanoic acid	0.58495826	Likely
66	Kresoxim-methyl	trans-2-decenoic acid	0.5617413	Likely
67	Kresoxim-methyl	trans-2-undecenoic acid	0.5611554	Likely

68	Kresoxim-methyl	3-decenoic acid	0.55813311	Likely
69	Picoxystrobin	9-decenoic acid	0.64360938	Likely
70	Picoxystrobin	decanoic acid	0.63400232	Likely
71	Picoxystrobin	nonanoic acid	0.6337739	Likely
72	Picoxystrobin	octanoic acid	0.63365494	Likely
73	Picoxystrobin	dodecanoic acid	0.63256371	Likely
74	Picoxystrobin	7-octenoic acid	0.62759129	Likely
75	Picoxystrobin	heptanoic acid	0.62253746	Likely
76	Picoxystrobin	12-hydroxydodecanoic acid	0.61545208	Likely
77	Picoxystrobin	8-hydroxyoctanoic acid	0.61335731	Likely
78	Picoxystrobin	10-hydroxydecanoic acid	0.60911996	Likely
79	Picoxystrobin	hexanoic acid	0.60391683	Likely
80	Picoxystrobin	5-hexenoic acid	0.58423756	Likely
81	Picoxystrobin	trans-2-decenoic acid	0.57715665	Likely
82	Picoxystrobin	trans-2-undecenoic acid	0.57706139	Likely
83	Picoxystrobin	3-decenoic acid	0.56894624	Likely
84	Picoxystrobin	trans-2-nonenoic acid	0.56590575	Likely
85	Picoxystrobin	3-nonenoic acid	0.56021643	Likely
86	Picoxystrobin	3-methylnonanoic acid	0.55981524	Likely
87	Picoxystrobin	trans-2-octenoic acid	0.55049884	Likely
88	Pydiflumetofen (Adepidyn)	octanoic acid	0.58507421	Likely
89	Pydiflumetofen (Adepidyn)	nonanoic acid	0.58455386	Likely
90	Pydiflumetofen (Adepidyn)	decanoic acid	0.58388714	Likely
91	Pydiflumetofen (Adepidyn)	dodecanoic acid	0.58166713	Likely
92	Pydiflumetofen (Adepidyn)	heptanoic acid	0.57342989	Likely
93	Pydiflumetofen (Adepidyn)	9-decenoic acid	0.57237365	Likely
94	Pydiflumetofen (Adepidyn)	hexanoic acid	0.55570532	Likely
95	Pydiflumetofen (Adepidyn)	7-octenoic acid	0.55530685	Likely
96	Revysol	dodecanoic acid	0.6001254	Likely
97	Revysol	decanoic acid	0.59978312	Likely
98	Revysol	nonanoic acid	0.59915221	Likely
99	Revysol	octanoic acid	0.59870726	Likely
100	Revysol	heptanoic acid	0.5884472	Likely
101	Revysol	9-decenoic acid	0.58379308	Likely
102	Revysol	hexanoic acid	0.56996538	Likely
103	Revysol	7-octenoic acid	0.56562299	Likely

104	Revysol	12-hydroxydodecanoic acid	0.56383193	Likely
105	Revysol	10-hydroxydecanoic acid	0.56139958	Likely
106	Revysol	8-hydroxyoctanoic acid	0.55953437	Likely
107	Revysol	3-methylnonanoic acid	0.5520322	Likely
108	Trifloxystrobin	9-decenoic acid	0.6725654	Likely
109	Trifloxystrobin	dodecanoic acid	0.66157781	Likely
110	Trifloxystrobin	decanoic acid	0.66133578	Likely
111	Trifloxystrobin	nonanoic acid	0.66097871	Likely
112	Trifloxystrobin	octanoic acid	0.66093915	Likely
113	Trifloxystrobin	7-octenoic acid	0.65512001	Likely
114	Trifloxystrobin	heptanoic acid	0.65001921	Likely
115	Trifloxystrobin	12-hydroxydodecanoic acid	0.64941725	Likely
116	Trifloxystrobin	10-hydroxydecanoic acid	0.64885914	Likely
117	Trifloxystrobin	8-hydroxyoctanoic acid	0.64848276	Likely
118	Trifloxystrobin	hexanoic acid	0.63310591	Likely
119	Trifloxystrobin	3-methylnonanoic acid	0.61211242	Likely
120	Trifloxystrobin	5-hexenoic acid	0.60404247	Likely
121	Trifloxystrobin	trans-2-decenoic acid	0.59111476	Likely
122	Trifloxystrobin	trans-2-undecenoic acid	0.59108112	Likely
123	Trifloxystrobin	3-decenoic acid	0.58504908	Likely
124	Trifloxystrobin	trans-2-nonenoic acid	0.57766945	Likely
125	Trifloxystrobin	3-nonenoic acid	0.57481307	Likely
126	Trifloxystrobin	3-methylhexanoic acid	0.57295034	Likely
127	Trifloxystrobin	trans-2-octenoic acid	0.56120624	Likely
128	Trifloxystrobin	3-octenoic acid	0.56061667	Likely
129	Trifloxystrobin	3-heptenoic acid	0.5584203	Likely
130	Valifenalate	dodecanoic acid	0.59915539	Likely
131	Valifenalate	decanoic acid	0.5985593	Likely
132	Valifenalate	nonanoic acid	0.59810962	Likely
133	Valifenalate	octanoic acid	0.59787693	Likely
134	Valifenalate	heptanoic acid	0.58391599	Likely
135	Valifenalate	9-decenoic acid	0.58095987	Likely
136	Valifenalate	hexanoic acid	0.56507724	Likely
137	Valifenalate	12-hydroxydodecanoic acid	0.5648372	Likely
138	Valifenalate	10-hydroxydecanoic acid	0.56308371	Likely
139	Valifenalate	8-hydroxyoctanoic acid	0.56188978	Likely
140	Valifenalate	7-octenoic acid	0.56071382	Likely