

REPÚBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Resolución N° 48595

Ref. Expediente N° NC2021/0000171

Por la cual se otorga una Patente de Invención

EL SUPERINTENDENTE DE INDUSTRIA Y COMERCIO
en ejercicio de sus facultades legales, en especial de las conferidas en el numeral 26 del artículo 3° del Decreto 4886 de 2011, y

CONSIDERANDO:

PRIMERO: Que DENALI THERAPEUTICS INC., presentó petición de divisional, la cual fue aceptada para trámite mediante N° NC2021/0000171 para la invención titulada “INHIBIDORES DE LA PROTEÍNA QUINASA 1 QUE INTERACTÚA CON EL RECEPTOR”, que corresponde a la solicitud internacional PCT/US2017/016509 del 3 de febrero de 2017.

SEGUNDO: Que la mencionada solicitud se presentó como una división de la solicitud NC2018/0008707, la cual fue publicada en la Gaceta de la Propiedad Industrial N° 837 el 31 de agosto de 2018, sin que se hubieran presentado oposiciones por parte de terceros.

TERCERO: Que realizado el examen de fondo mediante Oficio N° 4246, notificado el 29 de marzo de 2021, se requirió al solicitante en los términos del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina para que presentara respuesta a las observaciones de carácter técnico, relacionadas con la patentabilidad o cumplimiento de los requisitos establecidos por esta Decisión para la concesión de la patente.

CUARTO: Que el solicitante mediante escrito radicado bajo el N° NC2021/0000171 el 02 de junio de 2021, respondió oportunamente el requerimiento formulado y presentó las reivindicaciones 1 a 5 que reemplazan las originalmente presentadas, atendiendo de esta manera las observaciones efectuadas en el examen de fondo. Se acepta este último capítulo reivindicatorio presentado, comoquiera que se ajusta a las prescripciones contenidas en el artículo 34 de la Decisión 486.

QUINTO: Que en virtud de lo dispuesto en el artículo 14 de la Decisión 486 expedida por la Comisión de la Comunidad Andina “*Los países miembros otorgarán patentes para las invenciones, sean de producto o de procedimiento, en todos los campos de la tecnología, siempre que sean nuevas, tengan nivel inventivo y sean susceptibles de aplicación industrial.*”

SEXTO: Que en el presente caso las reivindicaciones 1 a 5 incluidas en el radicado bajo el N° NC2021/0000171 el 02 de junio de 2021, cumplen los requisitos indicados en el considerando anterior, toda vez que refieren a compuestos inhibidores de proteínas quinasas 1 (RIPK1), que difieren del estado de la técnica más cercano, WO2014125444, en que los compuestos de la presente invención presentan sustituciones específicas y concretas para cada uno de los compuestos particulares reivindicados, mientras que para los compuestos del documento del estado del arte, en las posiciones de R¹ a R⁴, se encuentran sustituciones que no están contempladas en las que se reivindican en los compuestos específicos de la invención. Adicionalmente, estas diferencias no se encuentran sugeridas en el estado de la técnica y, como consecuencia de ello, se evidencia el efecto en la actividad celular de la proteína quinasa 1 que interactúa con el receptor y la ligación de compuestos dados como ejemplo, cuyos resultados se reportaron

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y clasificaron como: +++ = $0,0001 \mu\text{M} < \text{IC}_{50} < 1 \mu\text{M}$; ++ = $1 \mu\text{M} < \text{IC}_{50} < 10 \mu\text{M}$; + = $10 \mu\text{M} < \text{IC}_{50}$; ++* = $3 \mu\text{M} < \text{IC}_{50}$. Sumado a lo anterior, la materia reivindicada, es susceptible de aplicación industrial.

SÉPTIMO: Que de acuerdo con la modificación presentada por el solicitante en el escrito radicado bajo el N° NC2021/0000171 el 02 de junio de 2021, y teniendo en cuenta el objeto concedido, se modifica el título de la invención el cual quedará de la siguiente manera: “COMPUESTOS DERIVADOS DE TETRAHIDROHETEROARIL/OXAZEPIN-ONAS, COMPOSICIONES FARMACÉUTICAS QUE LOS COMPRENDEN Y MÉTODO IN VITRO PARA LA INHIBICIÓN DE LA PROTEÍNA QUINASA 1”.

RESUELVE

ARTÍCULO PRIMERO: Otorgar patente de invención a la solicitud que entró en fase nacional en virtud del Tratado de Cooperación en Materia de Patentes (PCT), para la creación titulada:

“COMPUESTOS DERIVADOS DE TETRAHIDROHETEROARIL/OXAZEPIN-ONAS, COMPOSICIONES FARMACÉUTICAS QUE LOS COMPRENDEN Y MÉTODO IN VITRO PARA LA INHIBICIÓN DE LA PROTEÍNA QUINASA 1”

Clasificación IPC: C07D 403/12, C07D 413/14, C07D 413/12, C07D 417/12, C07D 471/04, C07D 261/18, C07D 487/04, C07D 491/048, C07D 495/04, C07D 498/04, C07D 498/14, C07D 513/04.

Reivindicaciones: 1 a 5 incluidas en el radicado bajo el N° NC2021/0000171 el 02 de junio de 2021, de acuerdo con el Anexo 1.

Titular: DENALI THERAPEUTICS INC.

Domicilio: 151 OYSTER POINT BLVD., 2ND FLOOR SOUTH SAN FRANCISCO, CALIFORNIA 94080, ESTADOS UNIDOS DE AMÉRICA.

Inventores: Joseph Peter LYSSIKATOS, Javier DE VINCENTE FIDALGO, Anthony A. ESTRADA, Zachary K. SWEENEY, Jianwen A. FENG, Brian FOX, Colin Philip LESLIE y Alfonso POZZAN.

Prioridad N°: 5/02/2016, US (ESTADOS UNIDOS DE AMÉRICA), 62/292,202.
24/05/2016, US (ESTADOS UNIDOS DE AMÉRICA), 62/341,019.
18/07/2016, US (ESTADOS UNIDOS DE AMÉRICA), 62/363,775.
8/09/2016, US (ESTADOS UNIDOS DE AMÉRICA), 62/385,217.
3/11/2016, US (ESTADOS UNIDOS DE AMÉRICA), 62/417,219.

Solicitud internacional N°: PCT/US2017/016509. **Fecha:** 3 de febrero de 2017.

Vigente desde: 3 de febrero de 2017.

Hasta: 3 de febrero de 2037.

ARTÍCULO SEGUNDO: El titular tendrá los derechos y las obligaciones establecidos en la Decisión 486 de la Comisión de la Comunidad Andina y en las demás disposiciones legales vigentes sobre propiedad industrial, precisando que para mantener vigente la patente se deberá cancelar la tasa anual de mantenimiento, conforme lo dispone el artículo 80 de la referida norma comunitaria.



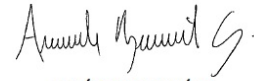
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ARTÍCULO TERCERO: Notificar el contenido de la presente resolución a DENALI THERAPEUTICS INC., advirtiéndole que contra ella procede el recurso de reposición, ante el Superintendente de Industria y Comercio, el cual podrá ser interpuesto en el momento de la notificación o dentro de los diez (10) días hábiles siguientes a ella.

NOTIFÍQUESE Y CÚMPLASE

Dada en Bogotá D.C., el 2 de agosto de 2021



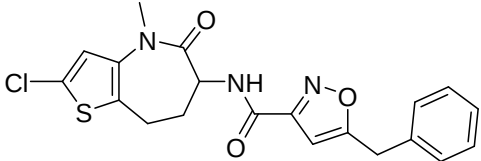
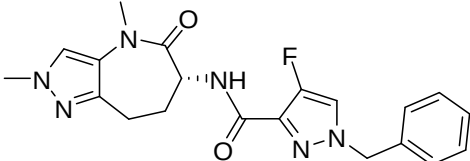
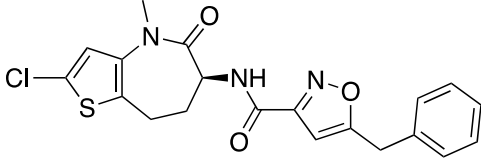
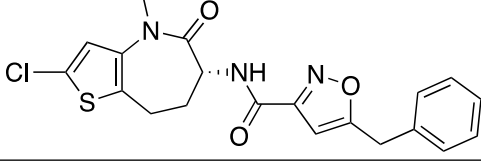
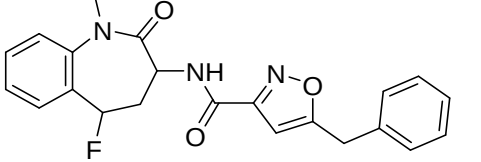
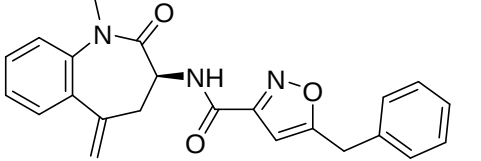
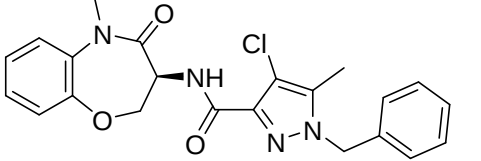
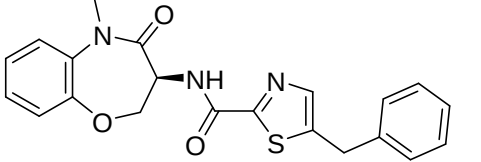
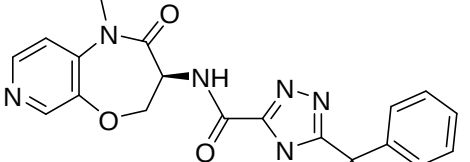
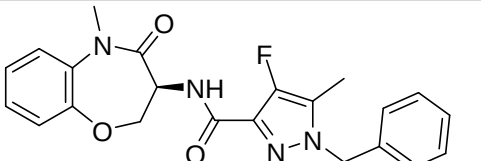
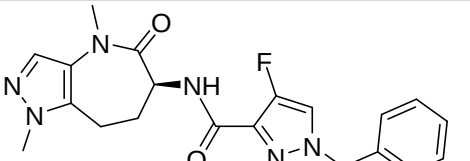
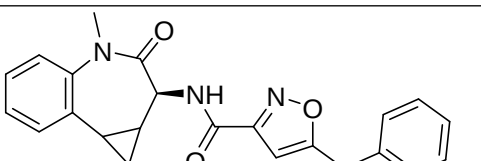
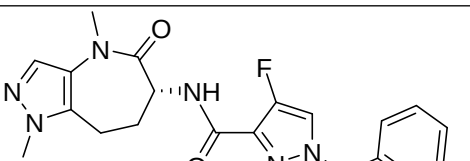
ANDRÉS BARRETO GONZÁLEZ
SUPERINTENDENTE DE INDUSTRIA Y COMERCIO

Firmado digitalmente
por: ANDRÉS
BERNARDO BARRETO
GONZÁLEZ
Fecha: 2021.08.02
17:02:01 COT
Razón: Validez jurídica.
Ubicación: Bogotá,
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ANEXO 1

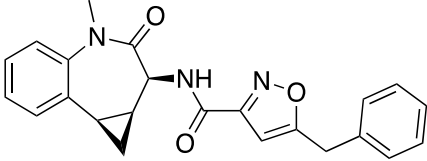
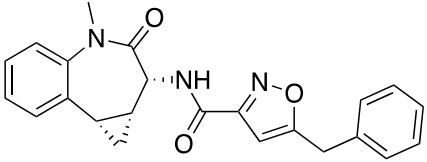
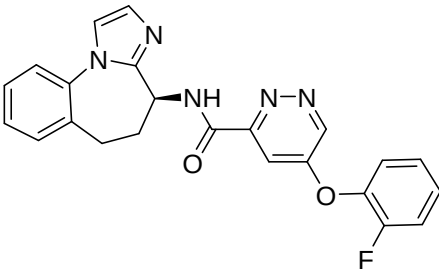
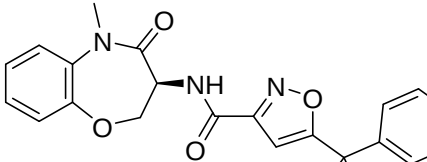
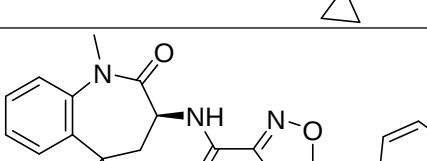
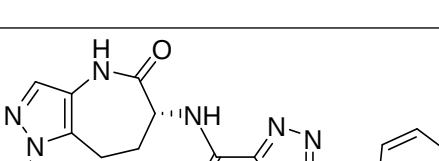
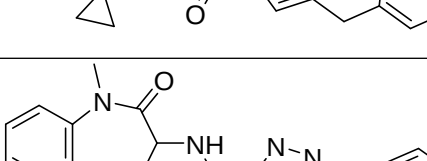
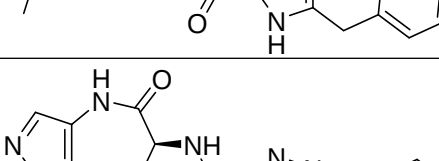
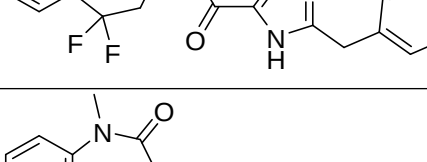
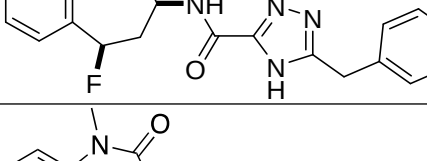
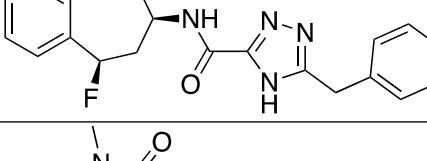
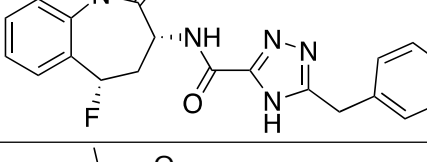
REIVINDICACIONES CONCEDIDAS

1. Un compuesto que es:

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1B			
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3			
4			
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6		114A	
7		114B	

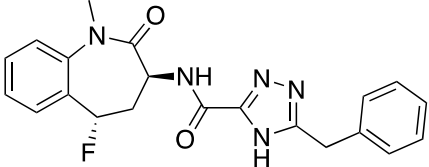
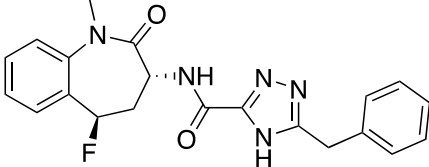
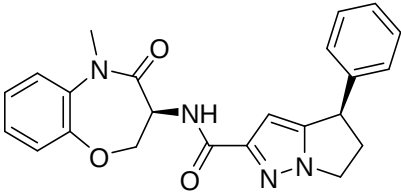
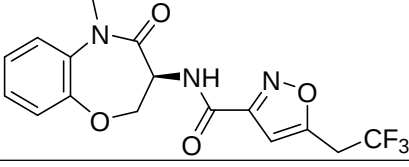
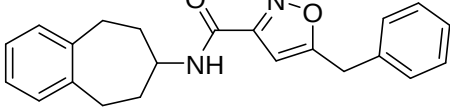
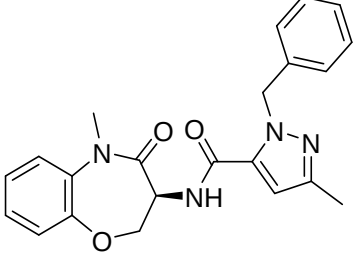
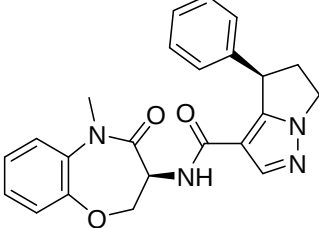
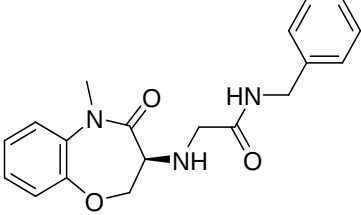
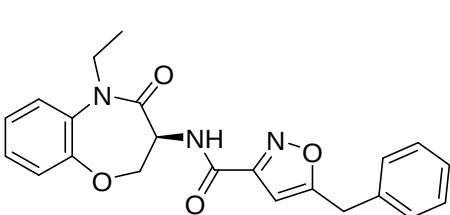
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9		118A	
10		118B	
11			
11A			
11B			
12			

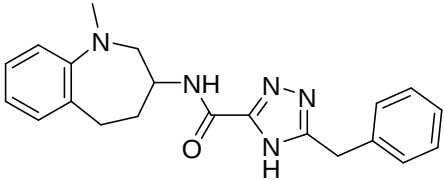
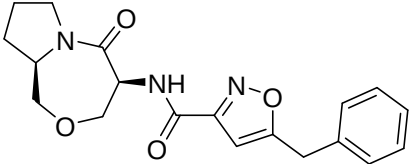
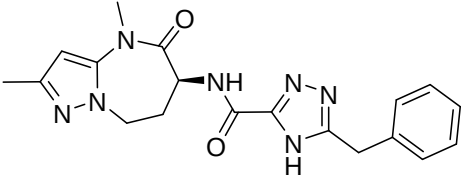
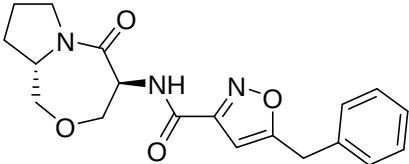
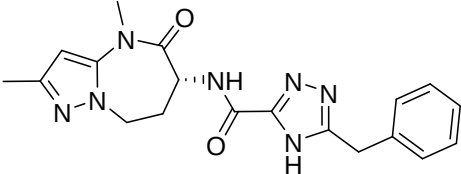
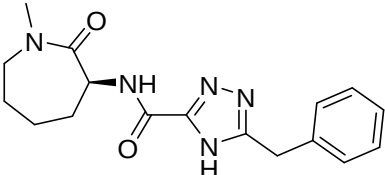
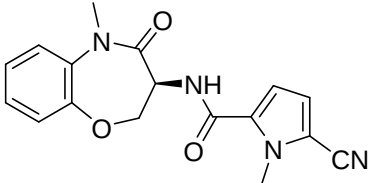
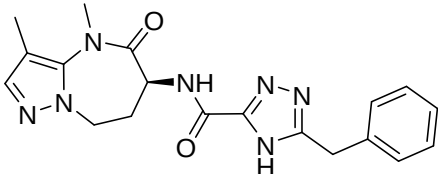
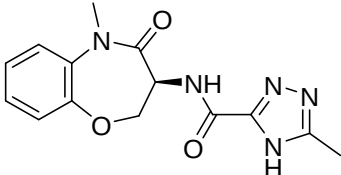
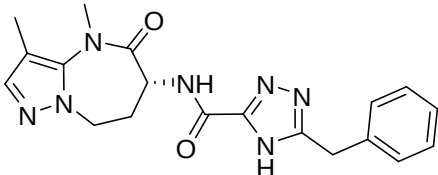
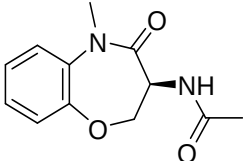
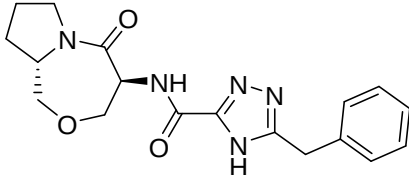
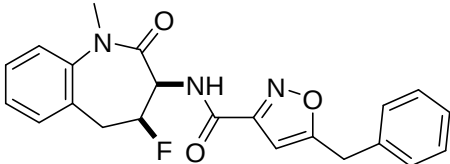
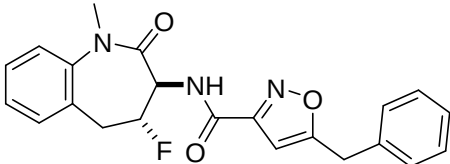
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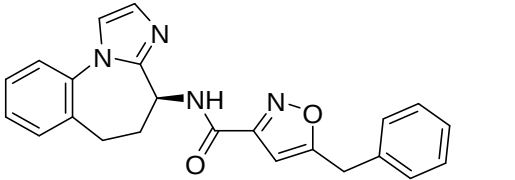
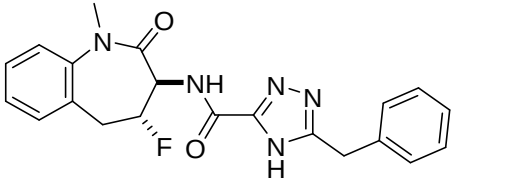
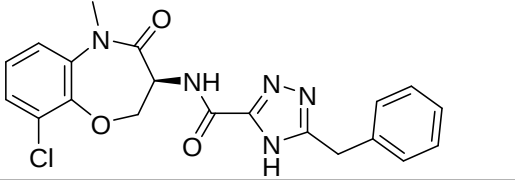
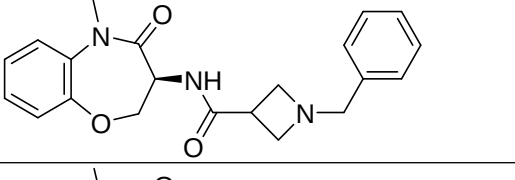
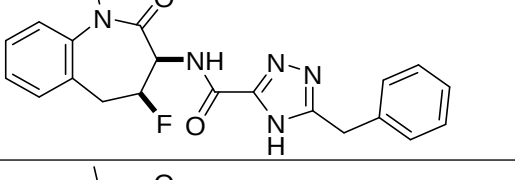
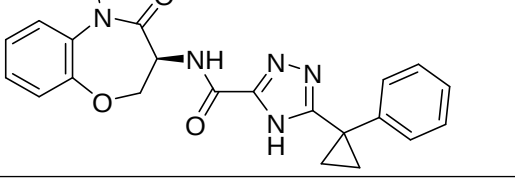
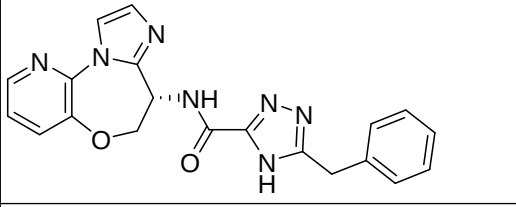
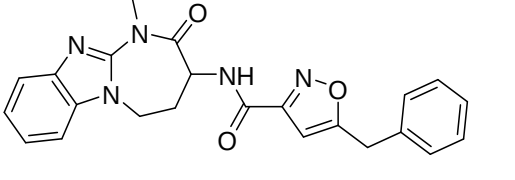
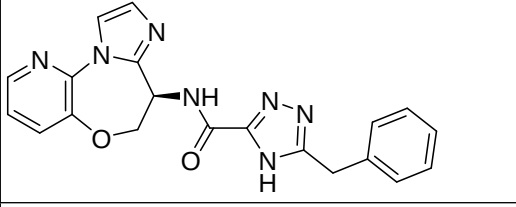
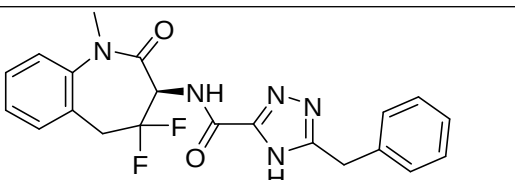
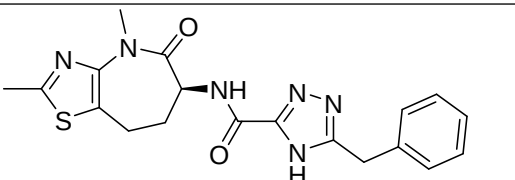
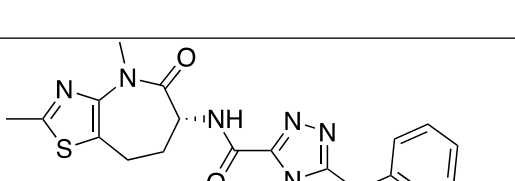
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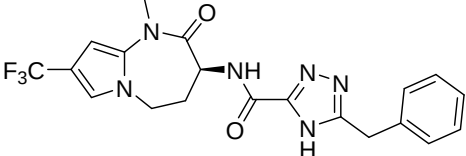
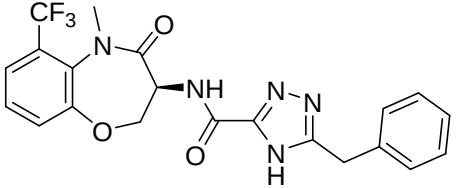
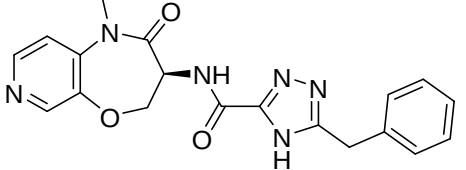
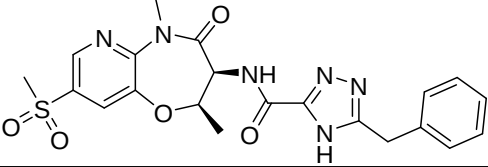
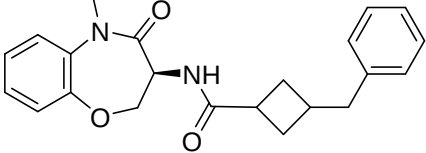
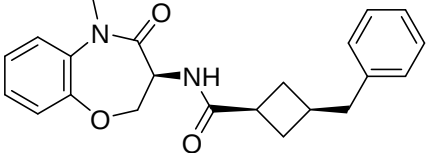
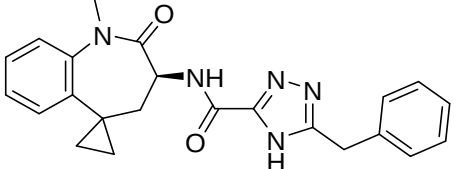
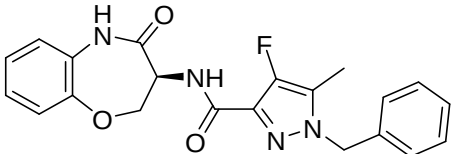
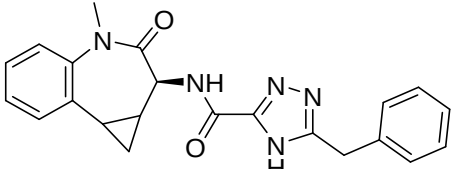
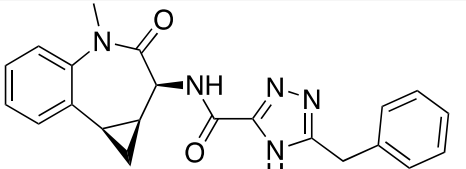
Resolución N° 48595

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No.	Estructura	No.	Estructura
30			
31			
32			
33			
34			
35		141A	
36		141B	
37			
38A			
38B			

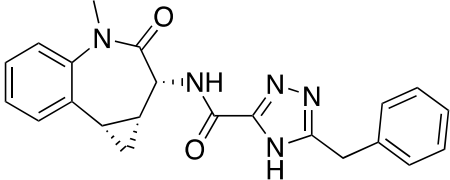
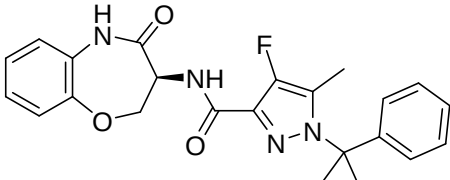
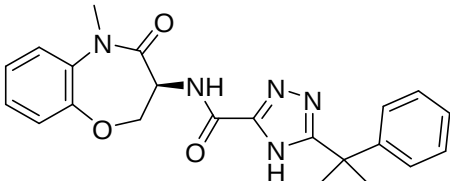
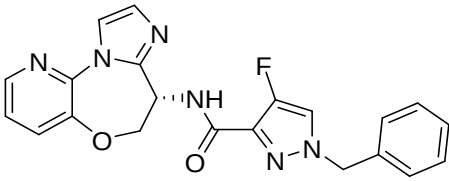
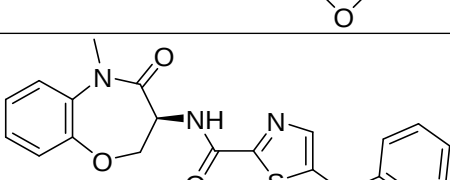
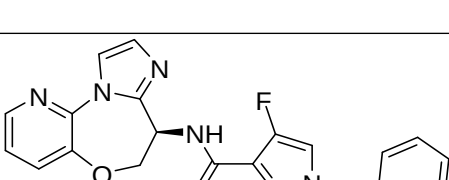
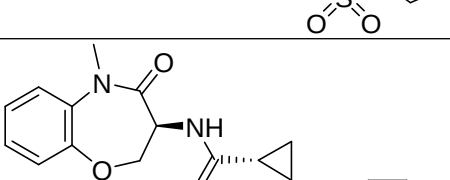
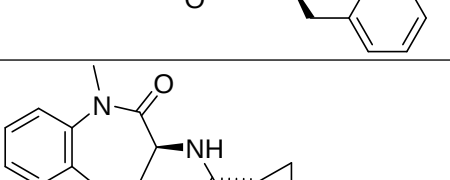
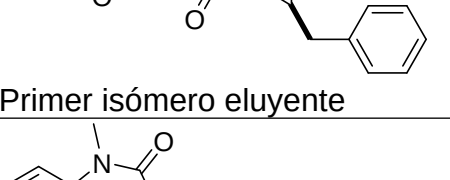
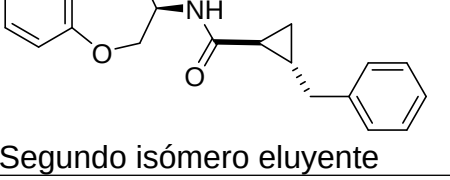
Resolución N° 48595

Ref. Expediente N° NC2021/0000171

No.	Estructura	No.	Estructura
39			
40			
41			
		147	
43			
43A			
44			
45			
46			
46A			

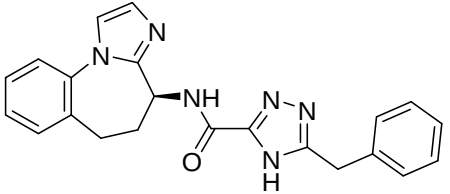
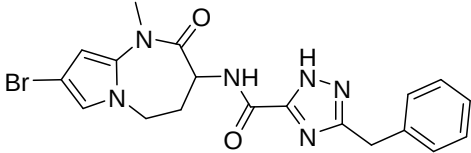
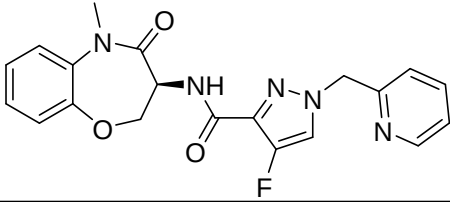
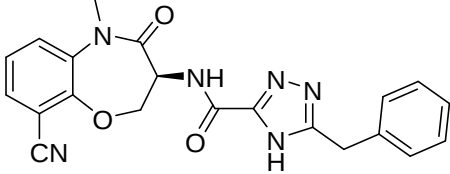
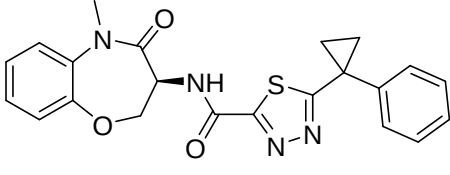
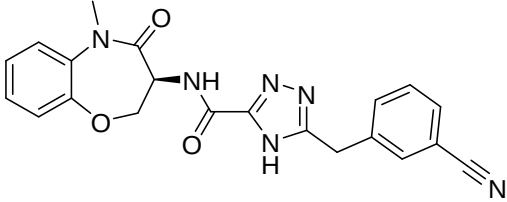
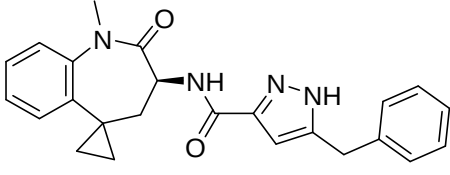
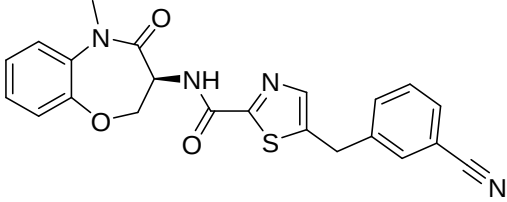
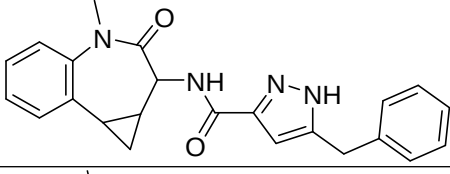
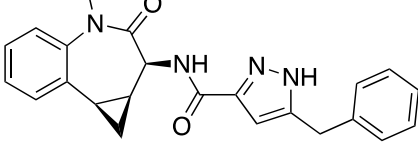
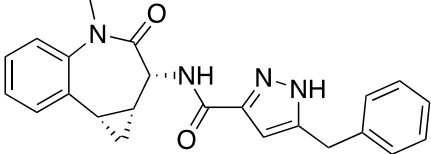
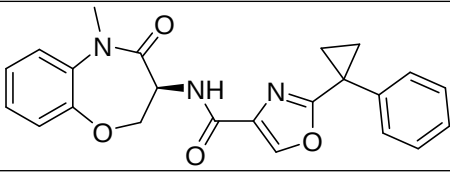
Resolución N° 48595

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No.	Estructura	No.	Estructura
46B			
47			
48		154A	
49		154B	
50			
50A	 Primer isómero eluyente		
50B	 Segundo isómero eluyente		
51			

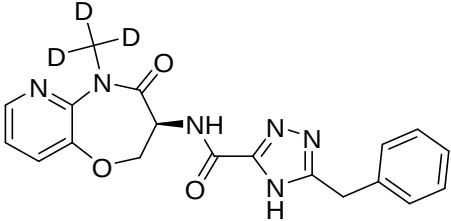
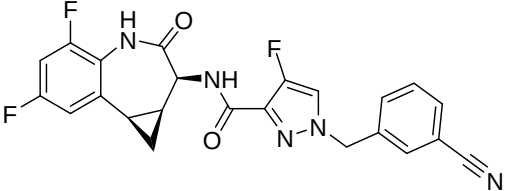
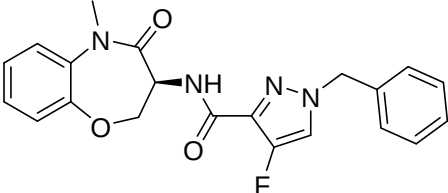
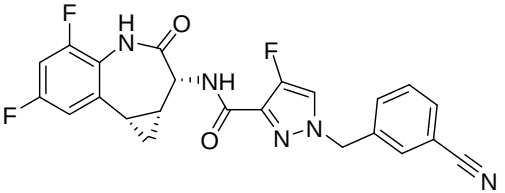
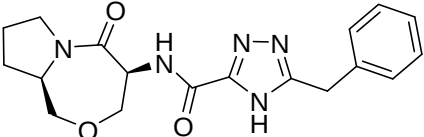
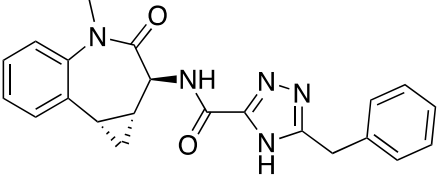
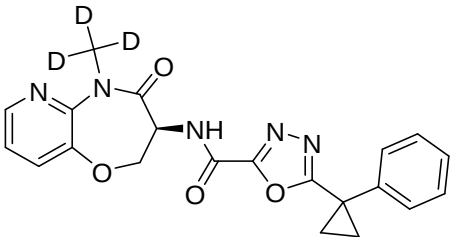
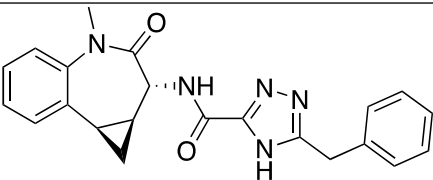
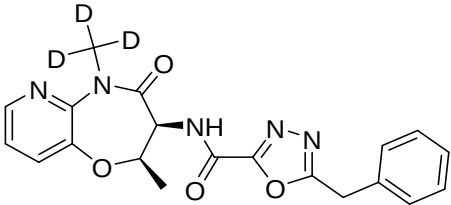
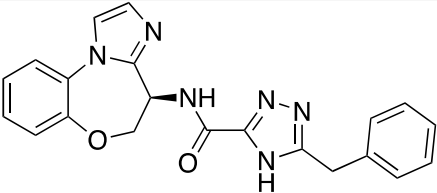
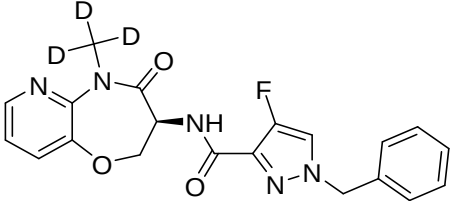
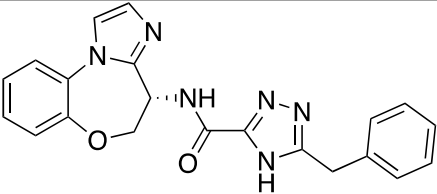
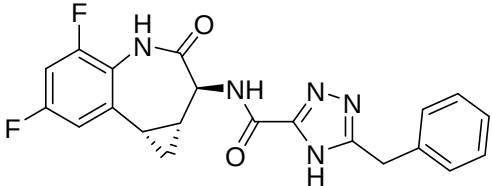
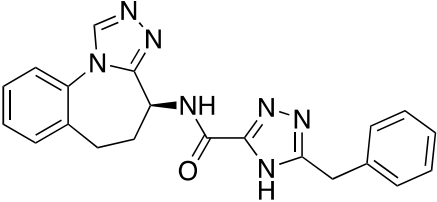
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No.	Estructura	No.	Estructura
52			
53			
55			
56			
58		163	
59		164	
60			
60A			
60B			
61			

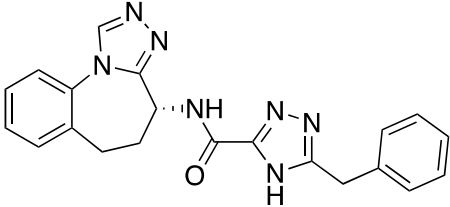
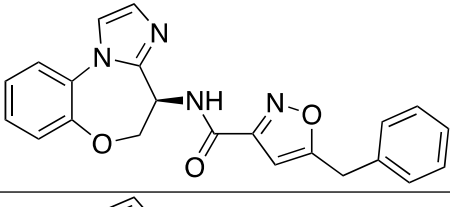
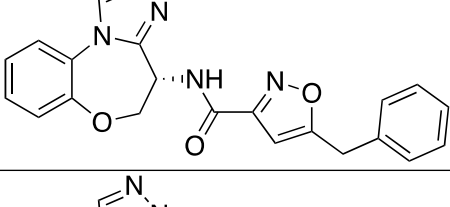
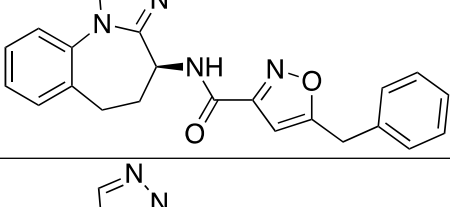
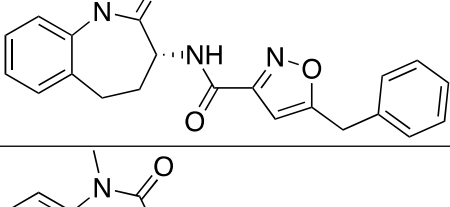
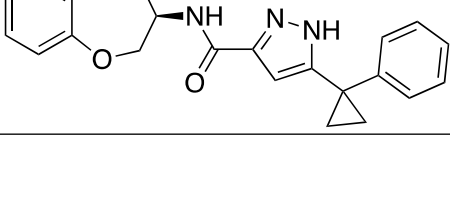
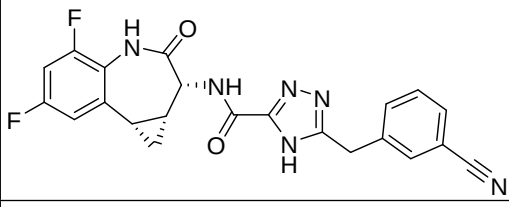
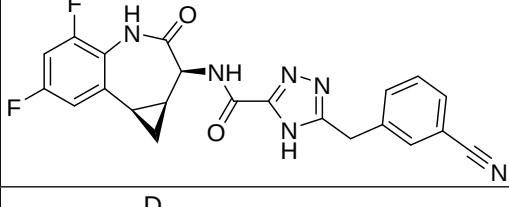
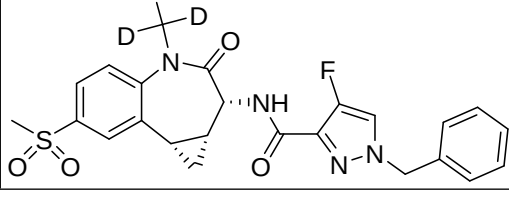
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No.	Estructura	No.	Estructura
		169	
		170A	
64		170B	
65			
67A		173	
67B		174	
68A		175	
68B		176	
69A			

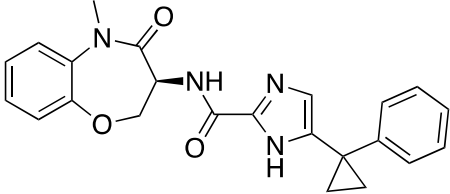
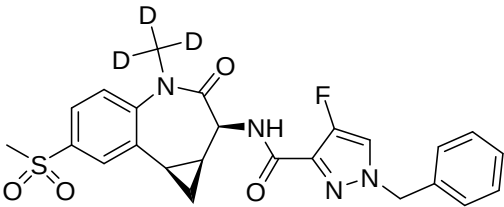
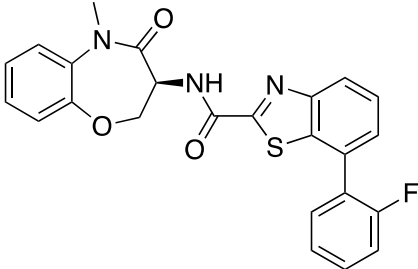
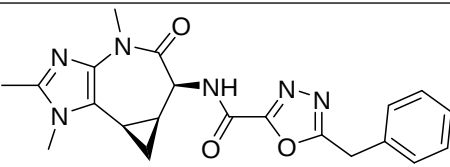
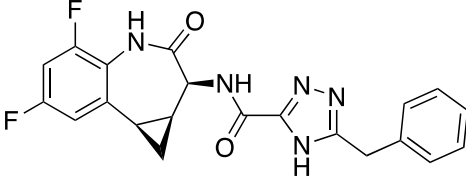
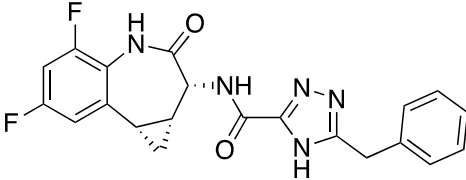
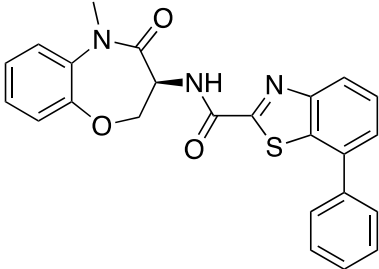
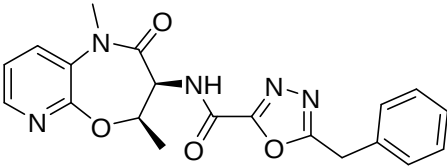
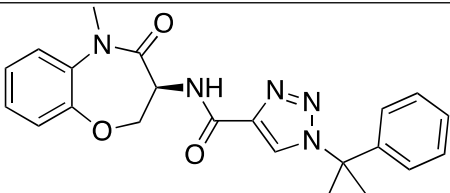
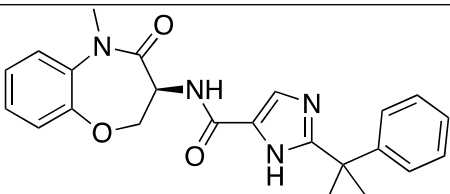
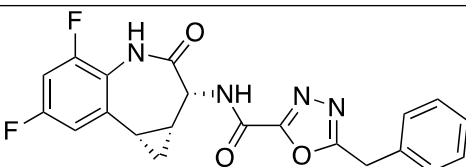
Resolución N° 48595

Ref. Expediente N° NC2021/0000171

No.	Estructura	No.	Estructura
69B			
70A			
70B			
71A			
71B			
72			
		181A	
		181B	
		183A	

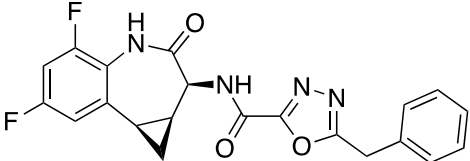
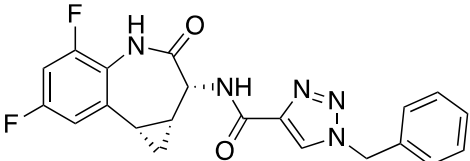
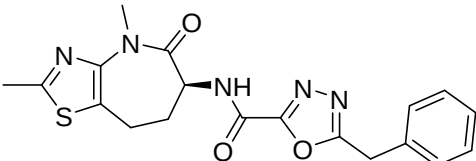
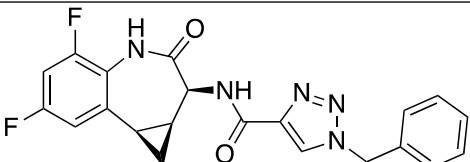
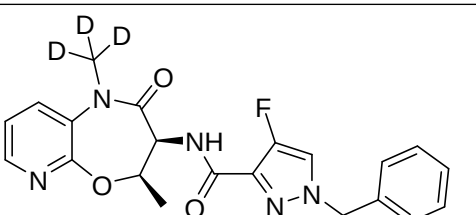
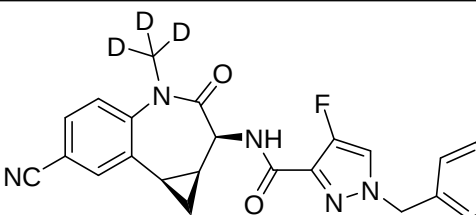
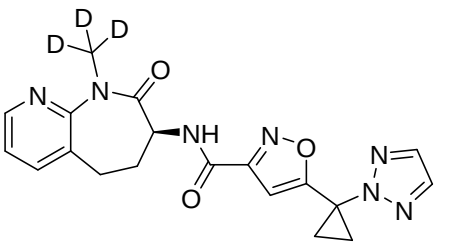
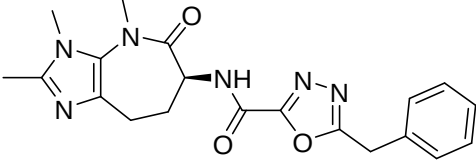
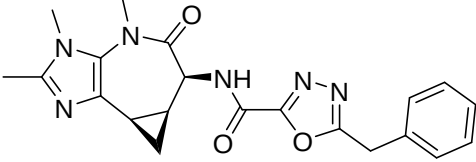
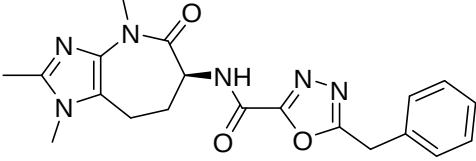
Resolución N° 48595

Ref. Expediente N° NC2021/0000171

No.	Estructura	No.	Estructura
78		183B	
79			
		185	
83A			
83B			
84		193	
87			
88			
89A			

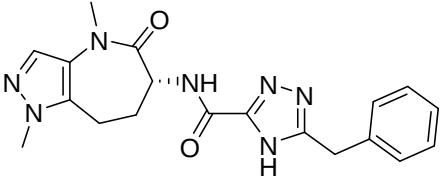
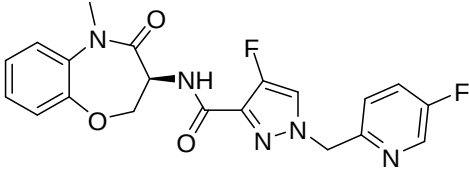
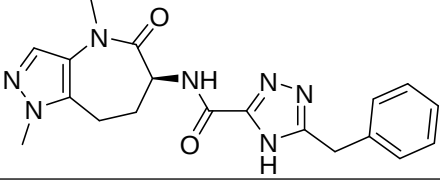
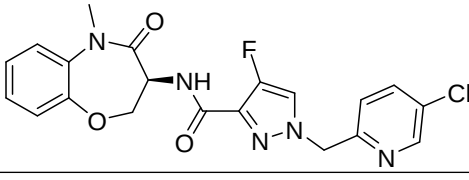
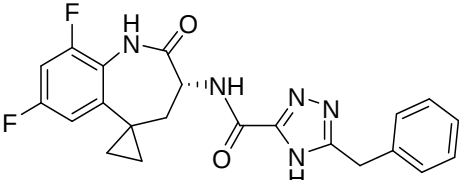
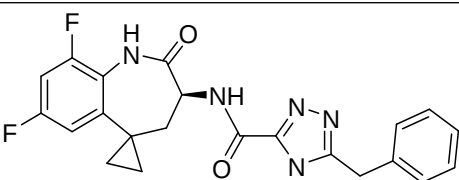
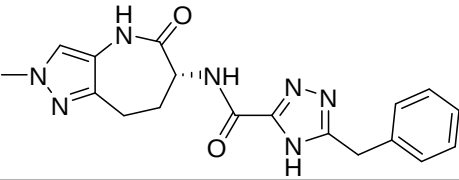
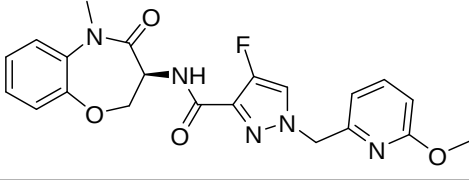
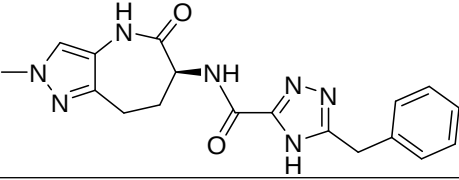
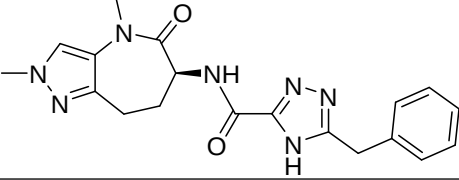
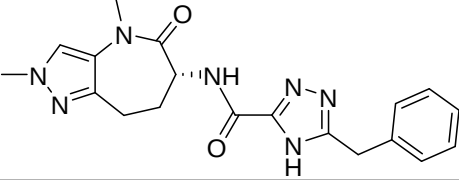
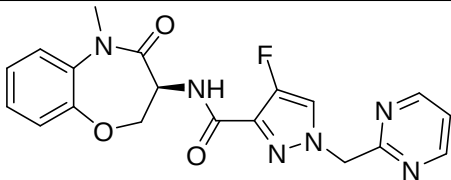
Resolución N° 48595

Ref. Expediente N° NC2021/0000171

No.	Estructura	No.	Estructura
89B			
90A		200	
90B			
		205	
		206	
		207	
		210	
		211	
		212	

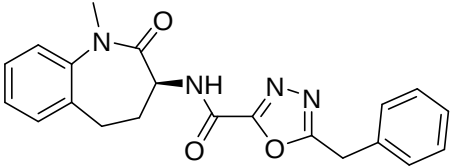
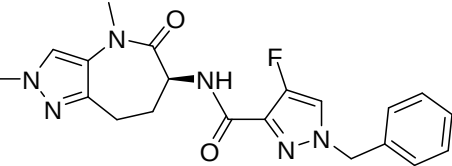
Resolución N° 48595

Ref. Expediente N° NC2021/0000171

No.	Estructura	No.	Estructura
101A		214	
101B			
		216	
103A			
103B			
104A		220	
104B			
105A			
105B			
		224	

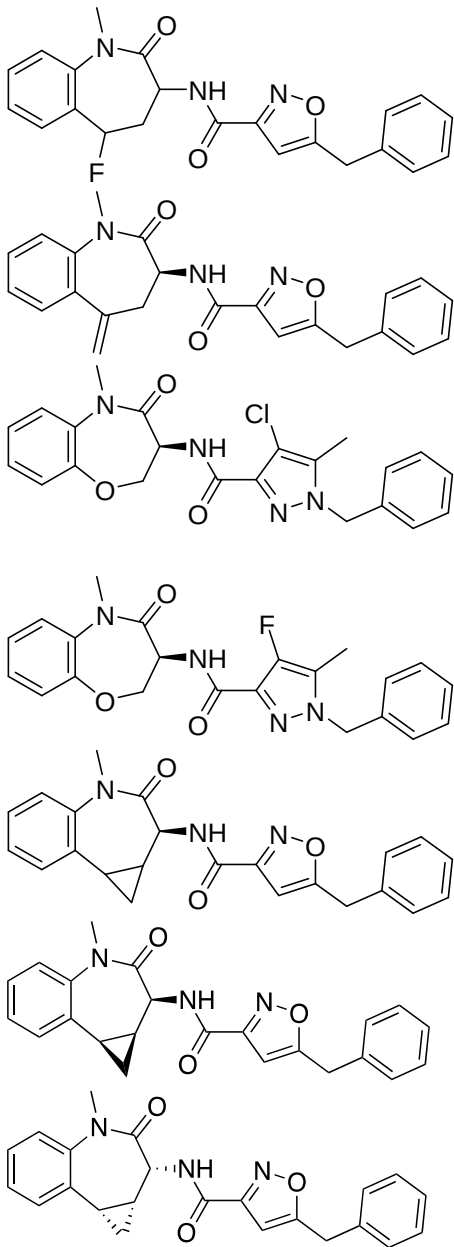
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No.	Estructura	No.	Estructura
		225	
109A			

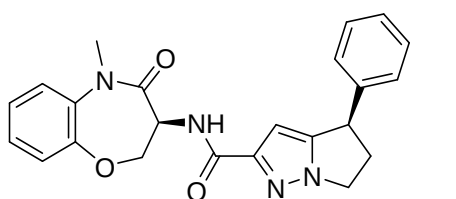
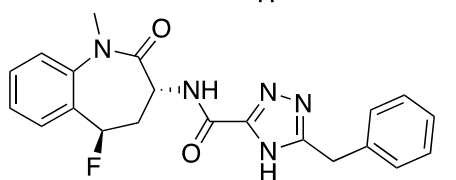
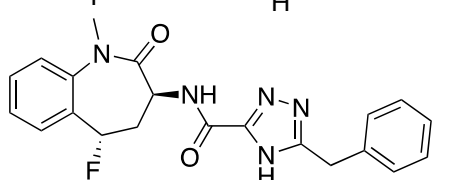
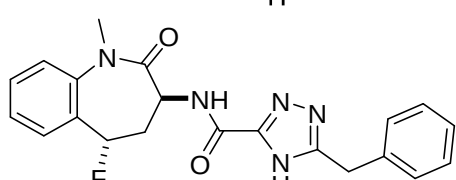
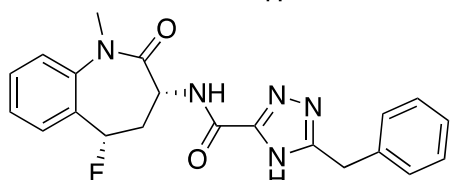
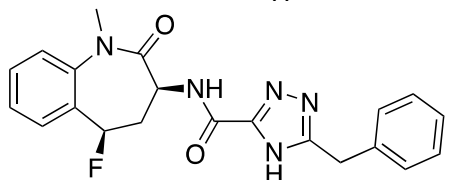
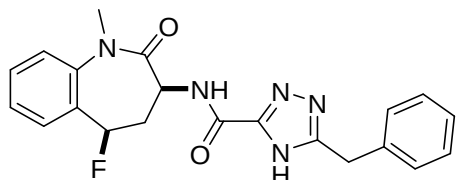
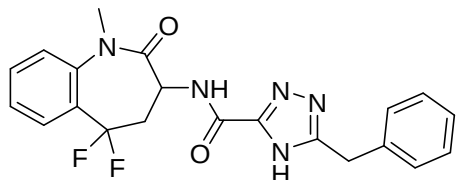
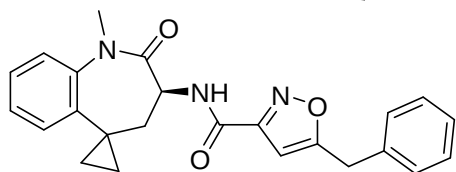
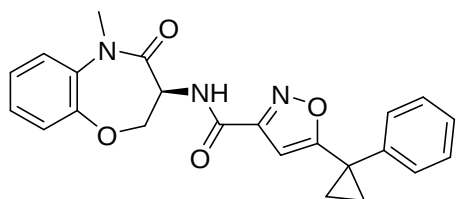
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2. Un compuesto que es:



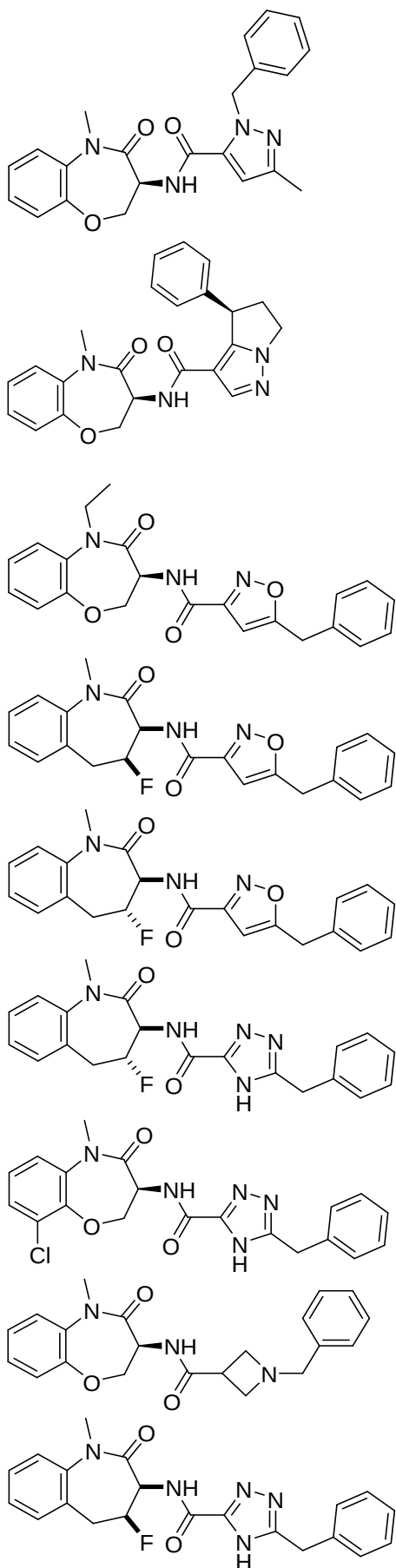
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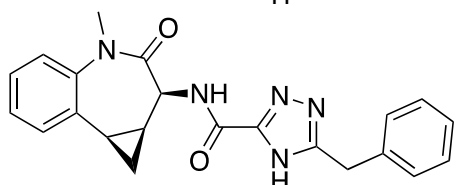
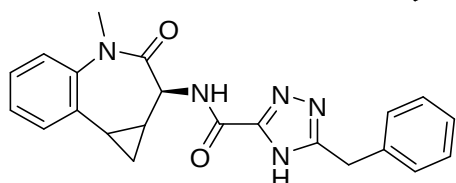
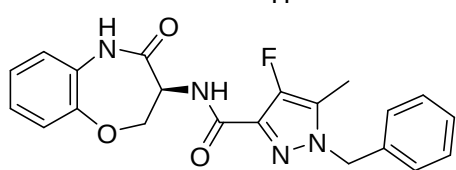
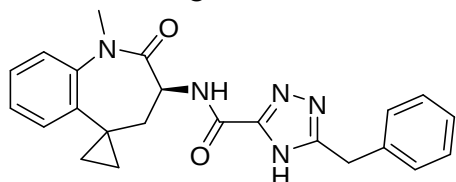
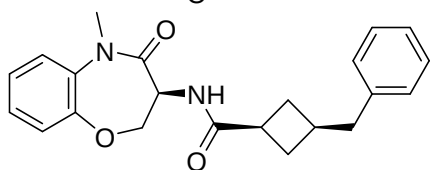
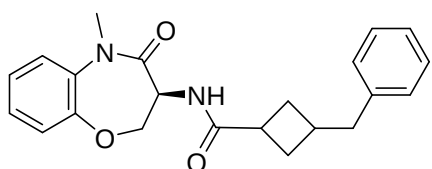
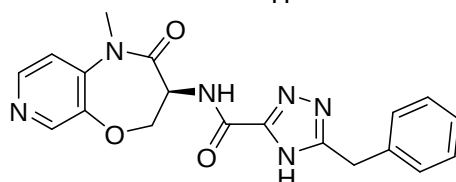
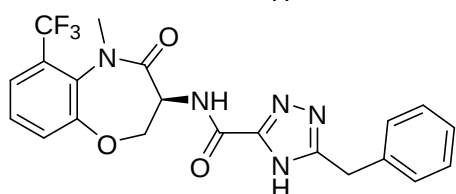
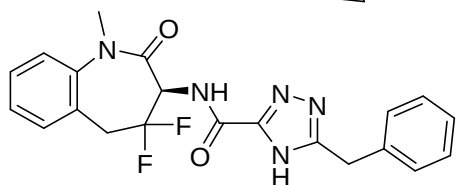
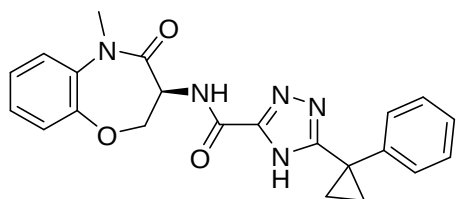
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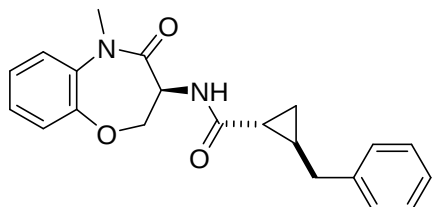
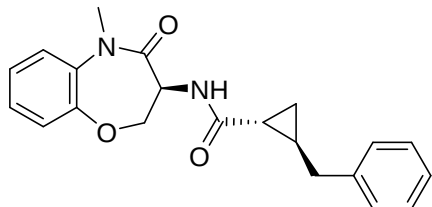
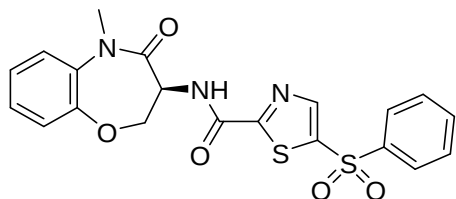
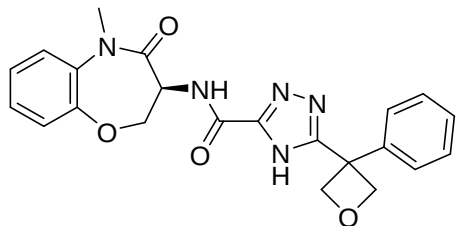
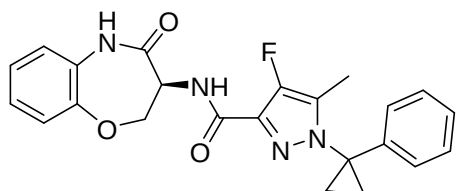
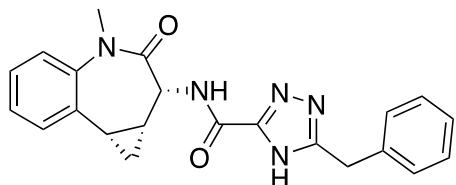
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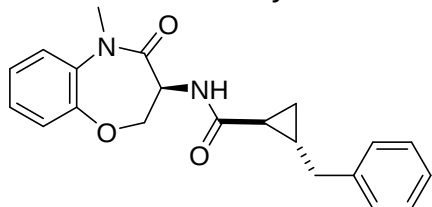


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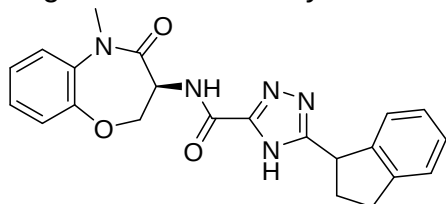
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Primer isómero eluyente

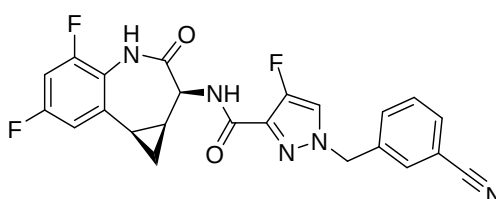
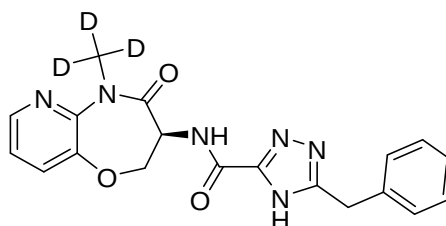
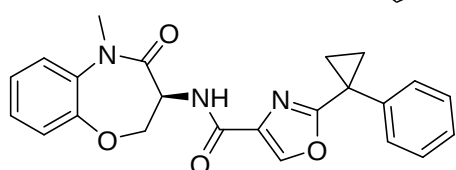
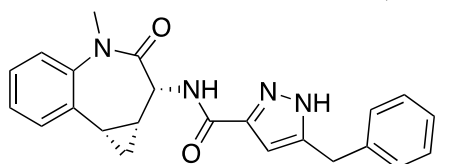
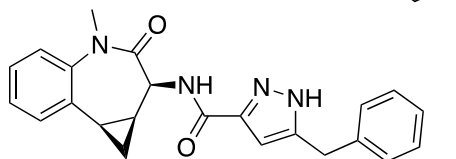
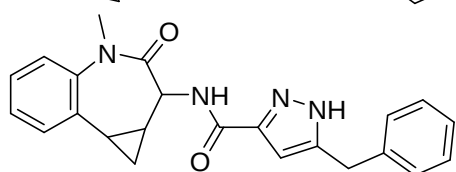
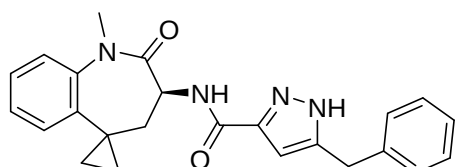
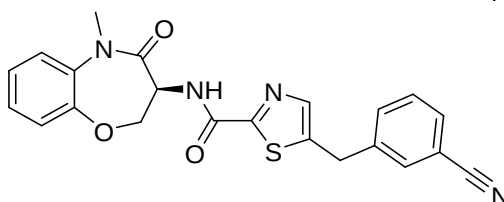
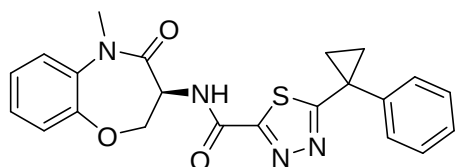
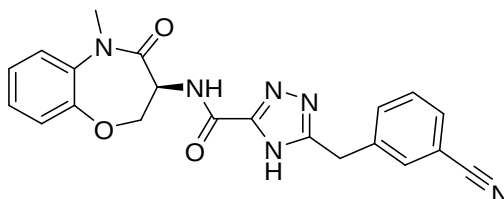
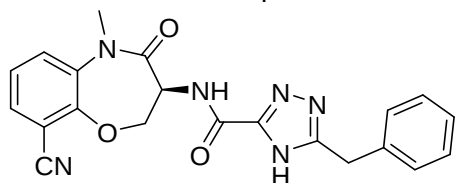
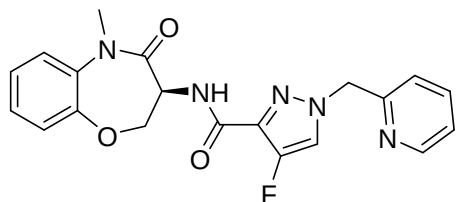


Segundo isómero eluyente



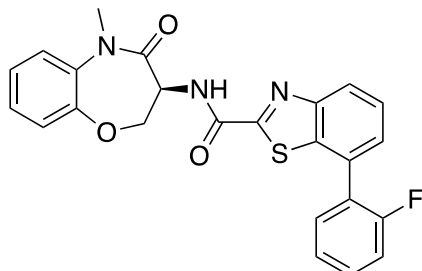
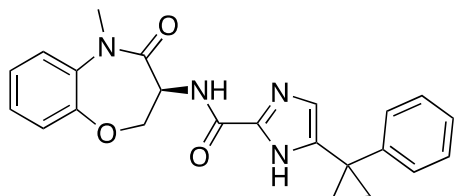
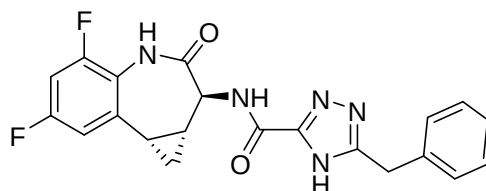
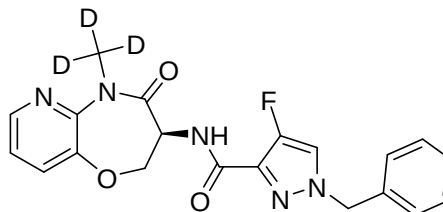
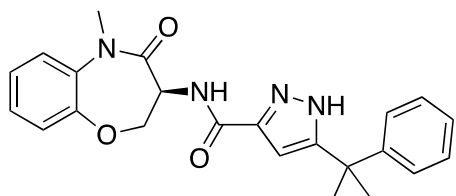
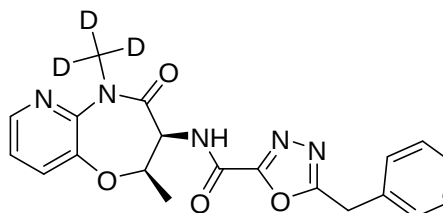
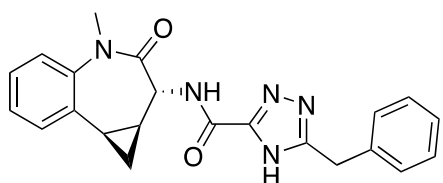
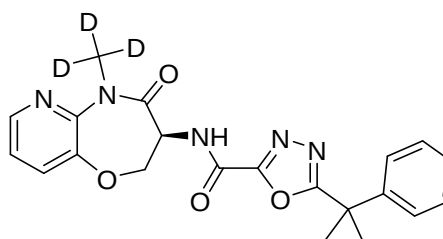
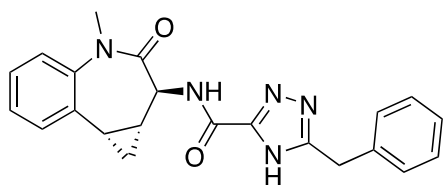
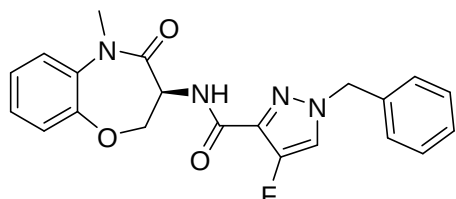
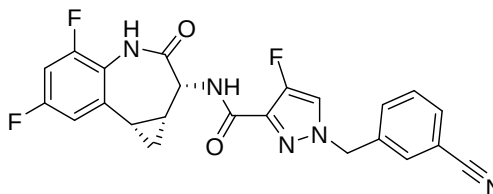
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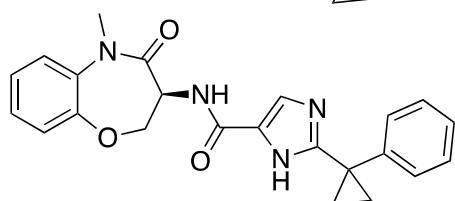
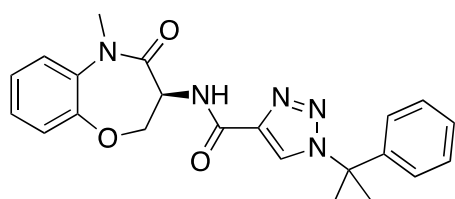
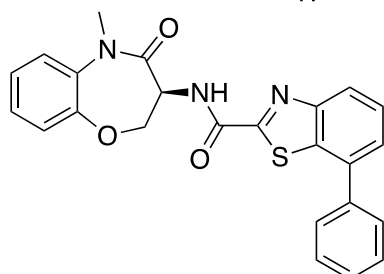
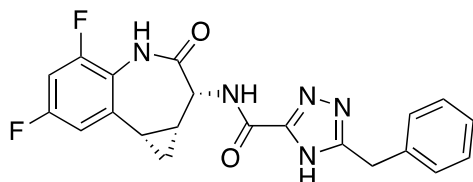
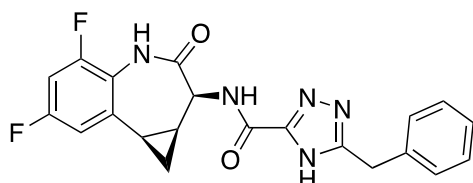
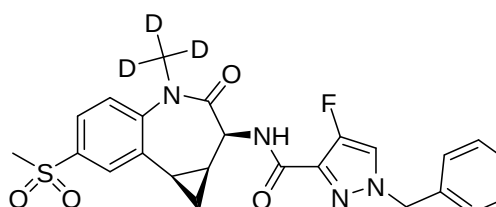
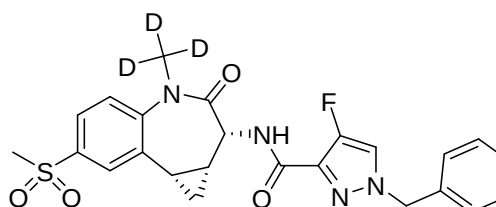
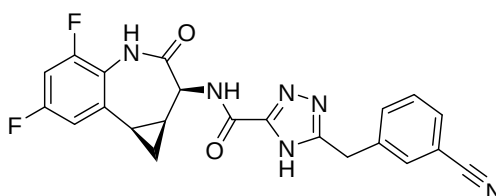
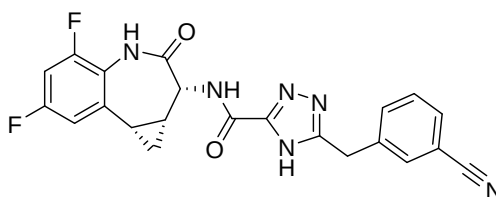
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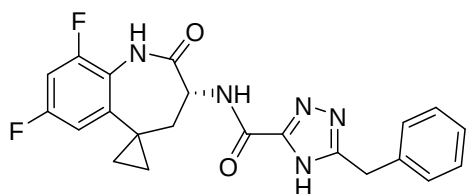
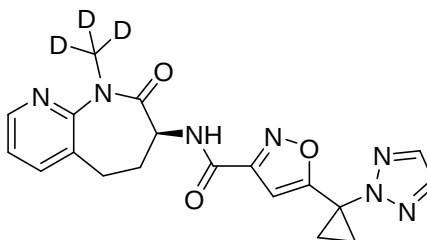
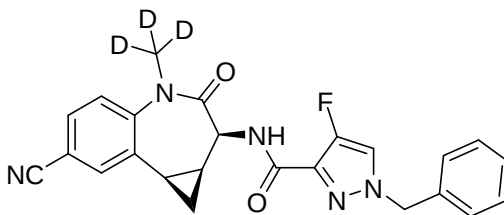
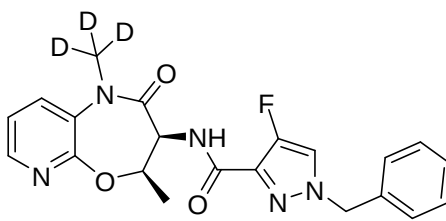
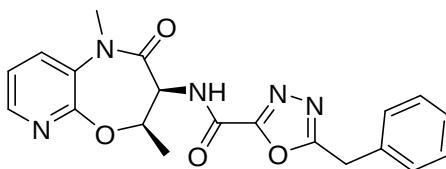
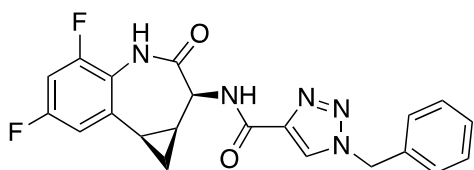
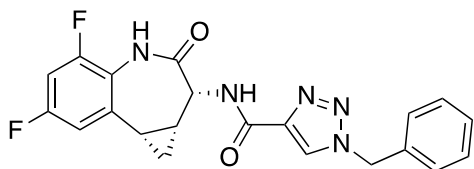
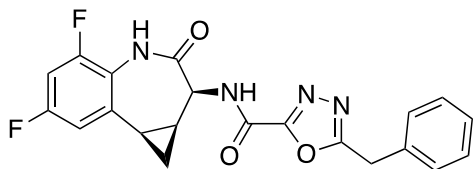
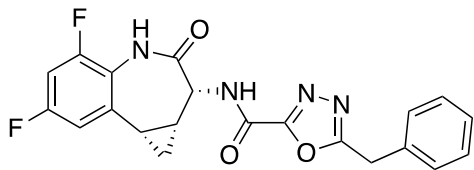
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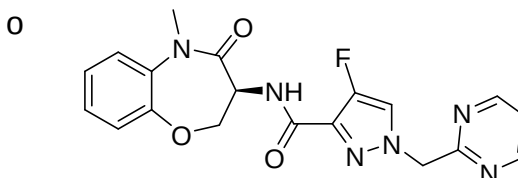
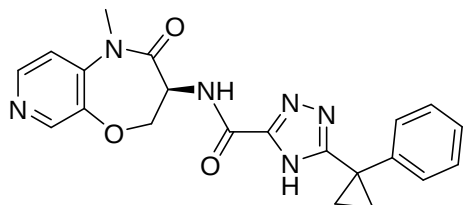
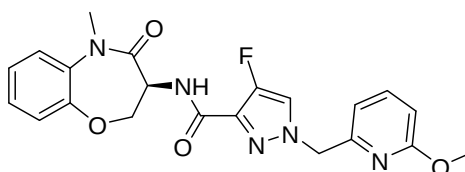
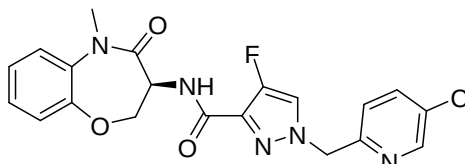
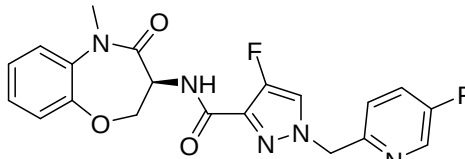
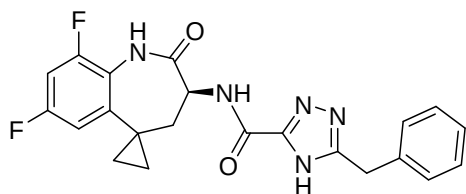
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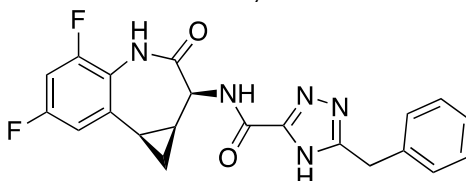
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o una sal, profármaco, tautómero, estereoisómero o mezcla de estereoisómeros farmacéuticamente aceptables de los mismos.

3. El compuesto de la reivindicación 2, en donde el compuesto es:



o un estereoisómero o una mezcla de estereoisómeros de los mismos, o una sal farmacéuticamente aceptable de los mismos.

4. Una composición farmacéutica que comprende un compuesto, o un estereoisómero o una mezcla de estereoisómeros, o una sal farmacéuticamente aceptable del mismo, de las reivindicaciones 1-3 y un excipiente.

5. Un método *in vitro* para inhibir la proteína quinasa 1 que interactúa con el receptor, que comprende poner en contacto una proteína quinasa 1 que interactúa con el receptor con un compuesto, o un estereoisómero o una mezcla de estereoisómeros, o una sal farmacéuticamente aceptable del mismo, de acuerdo con una cualquiera de las reivindicaciones 1-3 o la composición farmacéutica de la reivindicación 4.