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NOTICE OF ALLOWANCE AND FEE(S) DUE

153842 7590 03/05/2021
BakerHostetler
Washington Square, Suite 1100
Washington, DC 20036-5304

EXAMINER	
BONAPARTE, AMY C	
ART UNIT	PAPER NUMBER

1622

DATE MAILED: 03/05/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/764,666	05/15/2020	Raphael DUMEUNIER	SYG-0388PA(115479.000324)	8448

TITLE OF INVENTION: PROCESS FOR THE PREPARATION OF ENANTIOMERICALLY AND DIASTEREOMERICALLY ENRICHED
CYCLOBUTANE AMINES AND AMIDES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	06/07/2021

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

153842 7590 03/05/2021
BakerHostetler
Washington Square, Suite 1100
Washington, DC 20036-5304

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

_____ (Typed or printed name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/764,666	05/15/2020	Raphael DUMEUNIER	SYG-0388PA(115479.000324)	8448

TITLE OF INVENTION: PROCESS FOR THE PREPARATION OF ENANTIOMERICALLY AND DIASTEREOMERICALLY ENRICHED CYCLOBUTANE AMINES AND AMIDES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	06/07/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
BONAPARTE, AMY C	1622	564-126000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



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16/764,666	05/15/2020	Raphael DUMEUNIER	SYG-0388PA(115479.000324)	8448
153842	7590	03/05/2021	EXAMINER	
BakerHostetler			BONAPARTE, AMY C	
Washington Square, Suite 1100			ART UNIT	
Washington, DC 20036-5304			PAPER NUMBER	
			1622	
DATE MAILED: 03/05/2021				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/764,666	Applicant(s) DUMEUNIER et al.	
	Examiner AMY C BONAPARTE	Art Unit 1622	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the claims filed on 5/15/2020.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-23. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
a) ☒ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892) 2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>5/15/2020</u> . 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____. 4. ☒ Interview Summary (PTO-413), Paper No./Mail Date. <u>2/23/2021</u> .	5. ☒ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____.
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/AMY C BONAPARTE/
Primary Examiner, Art Unit 1622

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Status

Claims 1-15 are currently pending and under examination.

Priority

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/EP2018/081257 11/14/2018

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)
INDIA 201711041030 11/16/2017

(filing receipt dated 9/22/2020). Receipt is acknowledged of certified copies of papers required by 37 CFR 1.55.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below.

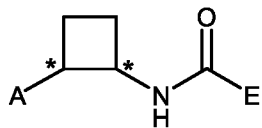
IN THE CLAIMS:

In line 4 of **claim 1** (the first line of text under the structure of formula (I)), the following limitation "heteroaryl, , C₁-C₆-alkyl" was deleted and replaced by the following: --heteroaryl, C₁-C₆-alkyl--.

In the twelfth line of text in **claim 1** (the penultimate line of step (a)), the word – hydrogenation—was inserted between the words "metal" and "catalyst".

In the first line of text under the structure of formula (X) in step (c) of **claim 1**, the limitation "such as OH, OR or halogen, preferably chloro," was deleted and replaced by the following: --selected from OH, OR or halogen,--.

In the final line of **claim 1**, the structure of formula (VII) was deleted and replaced



by the following: -- (VII) --.

In the final line of **claim 4**, the phrase “GaCl₃, preferably AlCl₃” was deleted and replaced by the following: --GaCl₃--.

In line 3 of **claim 6**, the phrase “preferably Ru,” was deleted.

In the sixth line of text in **claim 6**, the limitation “heteroaryl, C₁-C₆-alkyl and C₁-C₆-cycloalkyl,” was deleted and replaced by the following: --“heteroaryl, C₁-C₆-alkyl and C₃-C₆-cycloalkyl,--.

In line 2 of **claim 7**, the limitation “(R and S)- 1,1'-binaphtyl,” was deleted and replaced by the following: --(R and S)- 1,1'-binaphthyl,--.

In the final two lines of **claim 7**, the phrase “ethyl, preferably (R and S)- 1,1'-binaphtyl” was deleted and replaced by --ethyl--.

In line 1 of **claim 8**, the dependency was changed from “claim 1,” to --claim 6,--.

In lines 3-5 of **claim 8**, all three instances of the limitation “binaphtyl” at the end of the lines were deleted and replaced by --binaphthyl--.

In the final line of **claim 11**, the phrase “GaCl₃, preferably AlCl₃” was deleted and replaced by the following: --GaCl₃--.

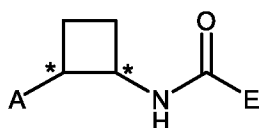
In **claim 13**, line 3, the phrase “A is as defined in any one of claims 1 to 3” was deleted and replaced by the following:

--A is selected from aryl, heteroaryl, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl and C₃-C₇-cycloalkyl, which aryl, heteroaryl, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl and

C₃-C₇-cycloalkyl are unsubstituted or substituted with one or more substituents independently selected from halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₁-C₆-alkylsulfanyl, C₁-C₆-haloalkylsulfanyl, C₁-C₆-alkylsulfinyl, C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl, C₁-C₆-haloalkylsulfonyl, C₂-C₆-haloalkenyl and C₂-C₆-haloalkynyl--.

In the first line of text under the structure of formula (X) in **claim 13**, the phrase "such as OH, OR or halogen, preferably chloro," was deleted and replaced by the following: --selected from OH, OR or halogen,--.

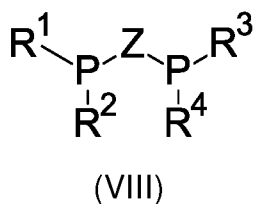
In the final line of **claim 13**, the compound of formula (VII) was deleted and



replaced by the following: -- (VII) --.

Claim 14 was deleted and replaced by the following:

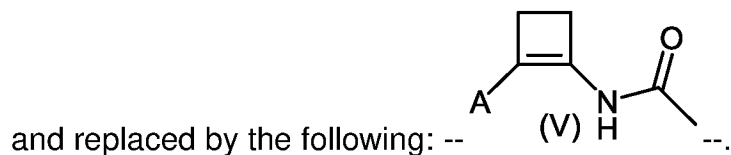
--The process according to claim 13, wherein the chiral transition metal catalyst comprises a transition metal selected from Ru, Rh, Ir and Pd, and a chiral ligand with a bidentate phosphor of the general formula (VIII)



wherein Z is a linking group and R¹, R², R³ and R⁴ are independently selected from aryl, heteroaryl, C₁-C₆-alkyl and C₃-C₆-cycloalkyl, each of which is unsubstituted or

substituted with one or more substituents independently selected from C₁-C₆ alkyl, C₁-C₆ alkoxy, C₁-C₆ haloalkyl and halogen.--.

In **claim 15**, the structure of the compound of formula (V) in line 2 was deleted



In the fourth line of text in **claim 15** (the first line of text under the compound of formula (II)), the phrase “GaCl₃, preferably AlCl₃,” was deleted and replaced by the following: --GaCl₃--.

In the final three lines of **claim 15**, the phrase “esters, preferably the additive is selected from acetyl chloride, isopropenyl acetate, 4-methoxybenzoyl chloride and p-anisic anhydride” was deleted and replaced by the following: --esters--.

The following new claims (16-23) were added:

--16. (New) The process according to claim 1, wherein Y is chloro.

17. (New) The process according to claim 4, wherein the Lewis acid is AlCl₃.

18. (New) The process according to claim 6, wherein the transition metal is Ru.

19. (New) The process according to claim 7, wherein the linking group Z is (R and S)-1,1'-binaphthyl.

20. (New) The process according to claim 11, wherein the Lewis acid is AlCl₃.

21. (New) The process according to claim 13, wherein Y is chloro.

22. (New) The process according to claim 15, wherein the Lewis acid is AlCl_3 .

23. (New) The process according to claim 15, wherein the additive is selected from acetyl chloride, isopropenyl acetate, 4-methoxybenzoyl chloride and p-anisic anhydride.--

Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an interview with **David Klecyngier** on **2/23/2021**.

Allowable Subject Matter

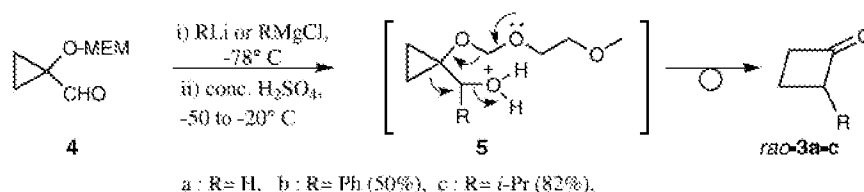
Claims 1-23 are allowed. The following is an examiner's statement of reasons for allowance: the closest prior art to the claimed process are the teachings of **US 2016/0157485** ('485, published 6/9/2016, of record in the IDS filed on 5/15/2020). '485 teaches various processes for producing compounds of formulae (IV), (VII), and (V) (see whole document, in particular schemes and experimental procedures in [0458-0583, 0718-0727, 0731-0759, 0774-0778, and 0837-0848]), however '485 does not teach or suggest that said compounds can be formed using the rearrangement procedure of instant step (b) in **claim 1** / the first step in **claim 15** (independently claimed in **claims 10 and 11**) in which a compound of instant formula (II) is treated with a Lewis acid to produce a compound of instant formula (III). Compound (IV) of '485

(see scheme 2 on p. 22 for example) corresponds to the instant compound of formula (III), and examples P2 and P3 in [0718-0727] teach that the compounds of instant formula (III) are prepared by first reacting 4-chlorobenzaldehyde with sulfur or phosphonium ylides and subjecting the resulting intermediates to epoxide rearrangement reactions. There is no teaching or suggestion to substitute instant step (b) in **claim 1** / the first step in **claim 15** for the processes described in examples P2 and P3 of '485 to arrive at the instant claimed process of **claims 1-9, 16-19, and 15**.

With further respect to **claims 10 and 11**, which recite instant step (b) in **claim 1** / the first step in **claim 15** independent of the other process steps recited in independent **claims 1 and 15**, also see the teachings of: i) **Truong** ("First synthesis of (1S, 2S)- and (1R, 2R)-1-amino-2-isopropylcyclobutanecarboxylic acids by asymmetric Strecker reaction from 2-substituted cyclobutanones" Tetrahedron Asymmetry, 14(9), 2003, p. 1063-1072, of record in the IDS filed on 5/15/2020); ii) **Yamashita** ("A new synthesis of cyclopentanones by the ring expansion of 1-acyl-1-[p-tolyl(or methyl)thio]cyclobutanes" Tetrahedron Letters, 24(1), 1983, p. 79-82, of record in the IDS filed on 5/15/2020); and iii) **Ohshita** ("GaCl₃-catalyzed skeletal rearrangement of α,α,α -trisubstituted aldehydes" Org. Lett, 2005, 7(2), p. 331-334).

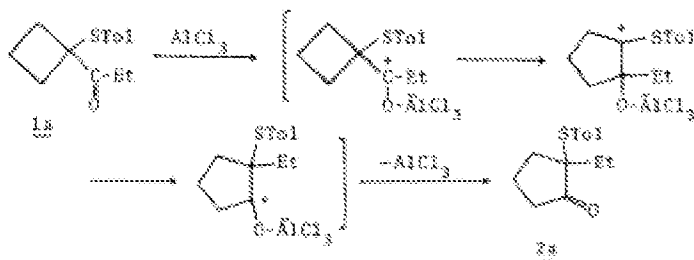
Truong teaches the following rearrangement (see p. 1064):

Scheme 2.



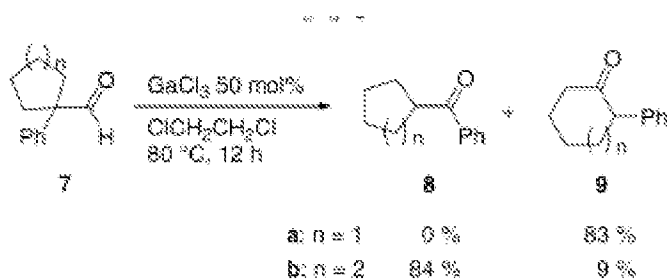
; and

Yamashita teaches the following rearrangement (see p. 80):



. Neither of these

rearrangements reads on the process of **claims 10 and 11** as both appear to require that variable "A" in instant formula (II) be a heteroatom (-STol or -OMEM). Ohshita teaches the following rearrangement (see Scheme 3 on p. 332):



. Ohshita further teaches that ring

size of reactant (7) greatly affects the product distribution (8 and 9) obtained from the rearrangement reaction, but Ohshita does not teach or suggest which product would be favored for other ring sizes (see discussion of Scheme 3 on p. 332-333). Further, the product distribution would also be expected to be affected by the instant substituent "A", adding another layer of uncertainty to extending the teachings of Ohshita to other systems (see schemes 1 and 3 on p 332). Therefore Ohshita also fails to teach or suggest the instantly claimed reaction. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY C BONAPARTE whose telephone number is (571)272-7307. The examiner can normally be reached on 11-7.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brandon Fetterolf can be reached on 571-272-2919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AMY C BONAPARTE/
Primary Examiner, Art Unit 1622