

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2022/028737 A1

(43) International Publication Date
10 February 2022 (10.02.2022)

(51) International Patent Classification:

C07K 7/08 (2006.01) A61P 31/04 (2006.01)
C07K 14/47 (2006.01) A61K 38/00 (2006.01)

EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:

PCT/EP2021/025301

(22) International Filing Date:

05 August 2021 (05.08.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

EP20020353.7 05 August 2020 (05.08.2020) EP

(71) Applicants: **POLYPHOR AG** [CH/CH]; Hegenheimer-
mattweg 125, 4123 Allschwil (CH). **UNIVERSITÄT**
ZÜRICH [CH/CH]; Rämistrasse 71, 8006 Zürich (CH).

(72) Inventors: **OBRECHT, Daniel**; Im Eichacker 21, 4112
Bättwil (CH). **LUTHER, Anatol**; Max-Brombacher-Weg
10, 79589 Binzen (DE). **UPERT, Grégory**; 10, Rue du
noyer, 68680 Kembs (FR). **DESJONQUERES, Nicolas**;
22b, Rue de la Liberté, 68680 Kembs (FR). **BRABET,**
Emile; 8, Rue du Rhin, 68300 Saint Louis (FR). **ZBINDEN,**
Peter; Föhrenweg 9, 4312 Magden (CH). **ZERBE, Oliv-**
er; Ringstrasse 36, 8057 Zürich (CH). **MÖHLE, Kerstin**;
Oberhausenstrasse 23, 8907 Wettswil (CH).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN,
KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW,
SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments (Rule 48.2(h))

(54) Title: ANTIMICROBIAL PEPTIDOMIMETICS

(57) Abstract: The present invention is directed to peptidomimetics having antibacterial activity, especially against Gram-negative bacteria. The peptidomimetics of the invention are compounds of the general formula (I), P¹-P²-P³-P⁴-P⁵-P⁶-P⁷-P⁸-P⁹-P¹⁰-P¹¹-P¹²-P¹³-P¹⁴-P¹⁵-P¹⁶ (I) and pharmaceutically acceptable salts thereof, as described in the description and in the claims. The invention is also directed to therapeutic uses of the peptidomimetics for the treatment or prevention of bacterial infections and diseases related to bacterial infections and to non-therapeutic uses of the peptidomimetics for preserving or disinfecting foodstuffs, cosmetics, medicaments or other nutrient-containing materials. In addition, the present invention provides an efficient synthetic process by which these compounds can, if desired, be made in parallel library-format. Moreover, the peptidomimetics of the invention show improved antimicrobial activity, low or no hemolysis of red blood cells and reduced cytotoxicity.



WO 2022/028737 A1