

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
27 April 2023 (27.04.2023)



(10) International Publication Number
WO 2023/067043 A1

(51) International Patent Classification:

C12P 17/02 (2006.01) C07D 313/08 (2006.01)

C12P 17/18 (2006.01) C11B 9/00 (2006.01)

(21) International Application Number:

PCT/EP2022/079172

(22) International Filing Date:

20 October 2022 (20.10.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2115120.4 21 October 2021 (21.10.2021) GB

2204546.2 30 March 2022 (30.03.2022) GB

(71) Applicant: GIVAUDAN SA [CH/CH]; Chemin de la Par-
fumerie 5, 1214 Vernier (CH).

(72) Inventors: EICHHORN, Eric; Kempthor 50, 8310
Kemptthal (CH). SCARDUA, Alessandro; Via Giuseppe
Mazzini 19, 20853 Biassono (IT). ULLMANN,
Christophe; 70, Allee Graham Bell, Parc Georges Besse,
30035 Nîmes Cedex 1 (FR).

(74) Agent: GLOBAL PATENTS; Givaudan SA, Grafenaus-
trasse 7, 6300 Zug (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, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,

HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,
KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,
LY, MA, MD, 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, CV,
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, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,
LV, MC, ME, 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).

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))
- with sequence listing part of description (Rule 5.2(a))

(54) Title: IMPROVED METHODS AND ENZYMES

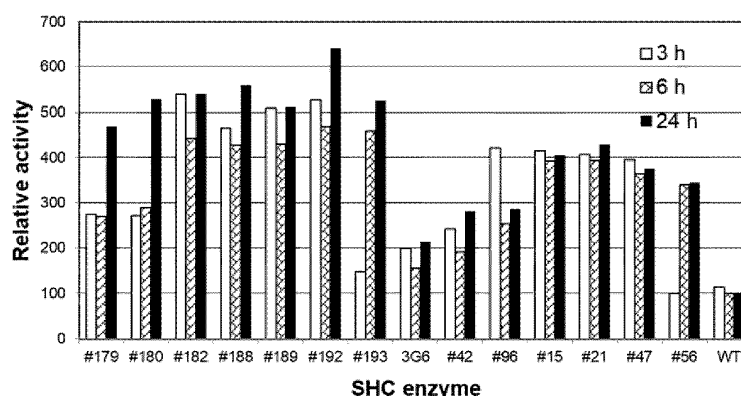


FIG 6

(57) Abstract: Improved methods of making amberketal and amberketal homologues and compositions comprising same, improved
squalene-hopene cyclase (SHC) enzymes to be used in said methods, nucleic acid constructs and vectors encoding said enzymes, and
host cells expressing said enzymes.

WO 2023/067043 A1