

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
21 October 2021 (21.10.2021)



(10) International Publication Number
WO 2021/209134 A1

(51) International Patent Classification:

A61K 33/38 (2006.01) A61K 31/426 (2006.01)
A61K 31/245 (2006.01) A61P 31/04 (2006.01)
A61K 31/255 (2006.01) A61P 31/12 (2006.01)
A61K 31/4184 (2006.01)

(21) International Application Number:

PCT/EP2020/060686

(22) International Filing Date:

16 April 2020 (16.04.2020)

(25) Filing Language:

English

(26) Publication Language:

English

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(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, 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,
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).

Published:

— with international search report (Art. 21(3))

(54) Title: ANTIMICROBIAL SILVER COORDINATION COMPLEXES

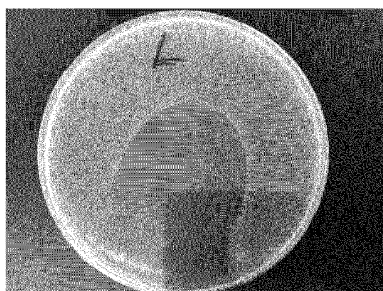


Fig. 1

(57) Abstract: An anionic bi-coordinated silver (I) complex has antimi-
crobial activity and the general formula $[Ag^+(L^2-)_2]^{3-}$, wherein L^{2-} is a
ligand selected from the group consisting of 2- mercapto-4-methyl-5-thia-
zole acetate, 3-mercapto-1-propansulfonate, 2-mercapto-5-5 benzimidazole
sulfonate and thiosalicylate. A sodium salt of the aforesaid anionic bi-
coordinated silver (I) complex has antimicrobial activity and the gener-
al formula $Na^+[Ag^+(L^2-)_2]^{3-}$. A salt of the aforesaid anionic bi-coordinat-
ed silver (I) complex has antimicrobial activity and the general formula
 $(W^+)_3[Ag^+(L^2-)_2]^{3-}$, wherein W^+ is a cationic surface-active agent, selected
from the group consisting of octenidine, chlorhexidine, benzalkonium and
didecyldimethylammonium; n is 2 when W^+ is octenidine or chlorhexidine;
n is 1 when W^+ is benzalkonium or didecyldimethylammonium. The anionic
bi-coordinated silver (I) complex can be incorporated in an antimicrobial gel
containing sodium hyaluronate and sodium ascorbyl phosphate. The antimi-
crobial gel is thermally and photochemically stable and is suitable for medical
use; in particular, it may be used as a liquid bandage. The complex-contain-
ing salts show high affinity for solid surfaces and can be adsorbed on solid
surfaces, thus enabling to formulate antimicrobial coatings and powders.



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