

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
13 February 2025 (13.02.2025)



(10) International Publication Number
WO 2025/032041 A1

(51) International Patent Classification:

C07F 7/22 (2006.01) G03F 7/09 (2006.01)
G03F 7/004 (2006.01) G03F 7/11 (2006.01)
G03F 7/039 (2006.01) G03F 7/32 (2006.01)

(21) International Application Number:

PCT/EP2024/072134

(22) International Filing Date:

05 August 2024 (05.08.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/518,716 10 August 2023 (10.08.2023) US

(71) Applicant: MERCK PATENT GMBH [DE/DE]; Frank-
furter Strasse 250, 64293 Darmstadt (DE).

(72) Inventors: LICHTENBERGER, Niels; c/o Merck Elec-
tronics KGaA, Frankfurter Strasse 250, 64293 Darmstadt
(DE). HUDSON, Daniel; c/o Merck Electronics KGaA,
Frankfurter Strasse 250, 64293 Darmstadt (DE). FACK-
LER, Philipp Hans; c/o Merck Electronics KGaA, Frank-
furter Strasse 250, 64293 Darmstadt (DE).

(74) Agent: MERCK PATENT ASSOCIATION; c/o Merck
Patent GmbH, 64271 Darmstadt (DE).

(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, MU, 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, SC, 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))
- in black and white; the international application as filed
contained color or greyscale and is available for download
from PATENTSCOPE

WO 2025/032041 A1

(54) Title: ORGANOMETALLIC CLUSTER CONTAINING SULFUR FOR EUV LITHOGRAPHY BACKGROUND

(57) Abstract: The disclosed and claimed subject matter relates to Sn6-oxo clusters with carboxylic acids containing a thioether or polysulfide functional groups, the synthesis thereof, formulations thereof and use thereof in EUV lithography.