

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 March 2008 (13.03.2008)

PCT

(10) International Publication Number
WO 2008/029935 A1

(51) International Patent Classification:
C08F 212/32 (2006.01) *H01L 51/50* (2006.01)
C09K 11/06 (2006.01) *H05B 33/14* (2006.01)

(74) Agent: SUZUKI, Shunichiro; S.SUZUKI & ASSO-
CIATES, Gotanda Yamazaki Bldg. 6F, 13-6, Nishigotanda
7-chome, Shinagawa-ku, Tokyo 1410031 (JP).

(21) International Application Number:
PCT/JP2007/067549

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

(22) International Filing Date:
4 September 2007 (04.09.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2006-240292 5 September 2006 (05.09.2006) JP

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL,
PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): SHOWA
DENKO K.K. [JP/JP]; 13-9, Shibadaimon 1-chome, Mi-
nato-ku, Tokyo, 1058518 (JP).

(72) Inventor; and

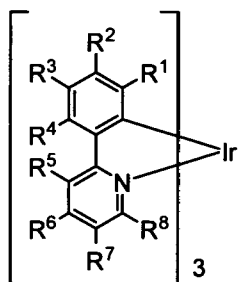
(75) Inventor/Applicant (*for US only*): TAKAHASHI,
Yoshiaki [JP/JP]; c/o Corporate R & D Center SHOWA
DENKO K.K., 1-1-1, Oonodai, Midori-ku, Chiba-shi,
Chiba, 2670056 (JP).

Published:
— with international search report



WO 2008/029935 A1

(54) Title: ORGANIC ELECTROLUMINESCENCE ELEMENT AND USE THEREOF



(1)

(57) Abstract: The organic electroluminescence element includes a substrate, a pair of electrodes formed on the substrate, and one or plural organic layers between the pair of the electrodes, said organic layer containing a luminescent layer, wherein the luminescent layer contains a compound represented by the following formula (1) and a charge-transporting non-conjugated polymer; in the formula (1), R¹ to R⁸ each are independently a hydrogen atom or an alkyl group having 1 to 20 carbon atoms; a plurality of the alkyl groups may be linked with one another to form a ring; at least two of R¹ to R⁸ are each the alkyl group; and at least one of the alkyl groups is an alkyl group having a tertiary or quaternary a-carbon atom. The organic electroluminescence element has high luminescence efficiency and long service life.