

(51) International Patent Classification:

B82Y 20/00 (2011.01) C08G 61/10 (2006.01)

(21) International Application Number:

PCT/SG2013/000308

(22) International Filing Date:

25 July 2013 (25.07.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/675,570	25 July 2012 (25.07.2012)	US
61/845,672	12 July 2013 (12.07.2013)	US

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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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, 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).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

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: HIGHLY EMISSIVE FAR-RED/NEAR-INFRARED FLUORESCENT CONJUGATED POLYMER-BASED NANOPARTICLES

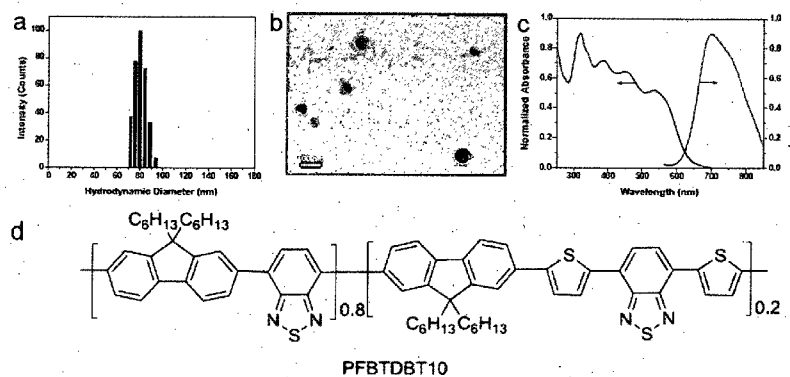


FIG. 4

(57) Abstract: A series of conjugated polymer-based nanoparticles having far-red/near infrared emission ranges are disclosed. Cross coupling methods to prepare the conjugated polymers and methods of nanoparticle preparation are also discussed. The conjugated polymer nanoparticles are used as FR/NIR fluorescent probes in in vitro and in vivo biosensing and bioimaging applications, and are also used in photoacoustic imaging as contrast agents. Finally, use of the conjugated polymer nanoparticles in photothermal therapy is described.