ABSTRACT

UPCONVERSION FLUORESCENT NANO-STRUCTURED MATERIAL AND USES THEREOF

Upconversion fluorescent nano-structured material(s) comprising at least one compound of formula $(M_1)_j(M_2)_kX_n:(M_3)_q$ and at least one polymer, wherein: each X is the same or different and is selected from the group consisting of: halogen, O, S, Se, Te, N, P and As; each M_1, if present, is the same or different and is selected from the group consisting of: Li, Na, K, Rb, Cs, Fr, Be, Mg, Ca, Sr, Ba, Ra, O and NH_4; each M_2 is the same or different and is a metal ion; each M_3, independently, is the same or different and is selected from the group consisting of Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu; j is $0 \leq j \leq 10$; k is $1 \leq k \leq 10$; n is $1 \leq n \leq 10$; and q is $1 \leq q \leq 10$. In particular, the polymer is wherein the polymer soluble in polar solvents.

Fig. 9

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