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(54) Title: QUANTUM DOT FOR PHOSPHOR FILM

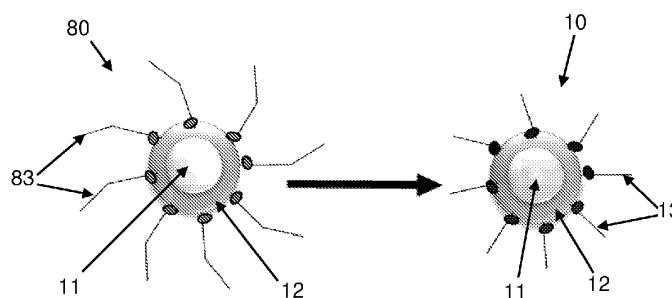


FIG. 1

(57) Abstract: A quantum dot comprising: a core comprising a gradient alloy of at least one metal chalcogenide; a shell around the core; and thermally combustible ligands on the shell; the quantum dot being soluble in a polar solvent having a higher vapour pressure than water, e.g. ethanol. The thermally combustible ligands preferably comprise tetramethylammonium hydroxide (TMAH) bound to 3-mercaptopropionic acid (3-MPA). A method is also provided for forming a phosphor film comprising said quantum dot, wherein the thermally combustible ligands decompose to form micro voids in the film.

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