Claims

[Claim 1]

A photo-exothermic composite material represented by Formula (I):

$CNM-(Y^1-R)_{n1}$ (I)

wherein, CNM denotes a carbon nanomaterial; Y^1 denotes a divalent linking group; R denotes a group derived from a fluorescent substance or pigment; and n1 is an integer of 1 or greater, and

wherein the divalent linking group represented by Y1 is selected from the group

consisting of -NH-, -O-, -CO-O-, -O-CO-, -CO-NH-, -NH-CO-, -NH-CO-O-, -O-CO-NH-,-O-CO-O-, and -NH-CO-NH-.

[Claim 2]

The photo-exothermic composite material according to claim 1, wherein the carbon nanomaterial is a carbon nanodiamond or carbon nanodots.

[Claim 3]

The photo-exothermic composite material according to claim 2, wherein the carbon nanomaterial is a carbon nanodiamond.

[Claim 4]

The photo-exothermic composite material according to any one of claims 1 to 3, wherein the carbon nanomaterial has at least one surface group selected from the group consisting of OH, COOH, and NH_2, and the group derived from a fluorescent substance or pigment and denoted by R is bonded to the carbon nanomaterial through the surface group.

[Claim 5]

A nanocluster in which the photo-exothermanyic composite material described in any of claims 1 to 4 is self-assembled.

[Claim 6]

The nanocluster according to claim 5, further complexed with an active ingredient.

[Claim 7]

The nanocluster according to claim 6, wherein the active ingredient is a physiologically active substance, a fluorescent substance, or a pigment.

[Claim 8]

A delivery carrier for an active ingredient, the delivery carrier comprising the nanocluster described in claim 6 or 7.

[Claim 9]

A pharmaceutical composition comprising the nanocluster described in claim 6 or 7, the nanocluster being complexed with a drug.