Claims

[Claim 1]

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

$CNM\text{-}(Y^1\text{-}R)_{n1}$ (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 divalent linking group represented by Y^1 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 ~~3~~2]

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

[Claim ~~4~~3]

The photo-exothermic composite material according to claim ~~3~~2, wherein the carbon nanomaterial is a carbon nanodiamond.

[Claim ~~5~~4]

The photo-exothermic composite material according to any one of claims 1 to ~~4~~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 ~~6~~5]

A nanocluster in which the photo-exothermanyic composite material described in any of claims 1 to ~~5~~ 4 is self-assembled.

[Claim ~~7~~6]

The nanocluster according to claim ~~6~~5, further complexed with an active ingredient.

[Claim ~~8~~7]

The nanocluster according to claim ~~7~~6, wherein the active ingredient is a physiologically active substance, a fluorescent substance, or a pigment.

[Claim ~~9~~8]

A delivery carrier for an active ingredient, the delivery carrier comprising the nanocluster described in claim ~~7~~ 6 or ~~8~~7.

[Claim ~~10~~9]

A pharmaceutical composition comprising the nanocluster described in claim ~~7~~ 6 or ~~8~~7, the nanocluster being complexed with a drug.