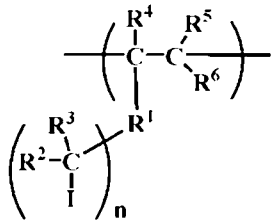
CLAIMS

1. A method for manufacturing a graft polymer comprising

performing a living radical polymerization of a vinyl monomer by a compound and an organic catalyst selected from phosphonium salts, phosphazenium salts, ammonium salts, and sulfonium salts ~~containing any of an organophosphorus compound, an organic oxygen compound, an organic sulfur compound, or an organic nitrogen compound containing any of amines, imides, ammonium salts, iodinated amines, or iodinated imides but excluding N,N,N',N'',N'' Pentamethyldiethylenetriamine and 4,4′ Dinonyl 2,2′ dipyridyl, the latter also known as dNbipy,~~ to manufacture the graft polymer, the compound having a recurring unit represented by a formula (1) below in a main chain.

Chem. 11



…….. (1)

where n = 1,

R^1 is: -COO-$(CH_2)_a$-OCO-,

R^2, R^3 are: an aromatic group, an aliphatic group,

R^4, R^5, R^6 are: a hydrogen atom, an aliphatic group,

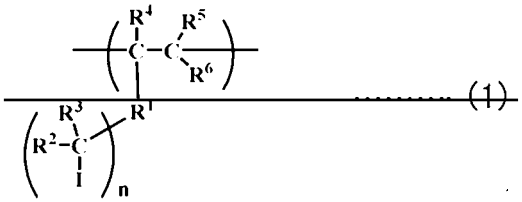
and a = 2 to 5.

~~2. The method for manufacturing the graft polymer according to claim 1, wherein the living radical polymerization is performed with the organic catalyst containing any~~

~~of an amine compound, a phosphine compound, a phosphonate compound, a phosphonium salt, an iodoimido compound, or an ammonium compound.~~

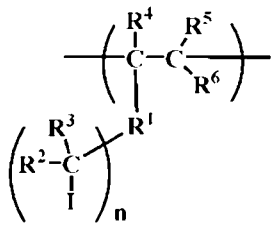
~~3. An initiator of a graft polymer used as an initiator for a living radical polymerization with a vinyl monomer in the method for manufacturing the graft polymer according to claim 1 or claim 2, the initiator of the graft polymer having the recurring unit represented by the formula (1) below in the main chain according to claim 1.~~

~~Chem. 12~~



~~4~~2. An initiator of a graft polymer used as an initiator for a living radical polymerization with a vinyl monomer by an organic catalyst ~~containing any of an organophosphorus compound, an organic oxygen compound, an organic sulfur compound, or an organic nitrogen compound containing any of amines, imides, ammonium salts, iodinated amines, or iodinated imides but excluding N,N,N',N'',N''-Pentamethyldiethylenetriamine and 4,4′-Dinonyl-2,2′-dipyridyl, the latter also known as dNbipy~~ selected from phosphonium salts, phosphazenium salts, ammonium salts, and sulfonium salts, the initiator of the graft polymer having a recurring unit represented by a formula (1) below in a main chain.

Chem. 13



…….. (1)

where n = 1,

R^1 is: -COO-$(CH_2)_a$-OCO-,

R^2, R^3, R^4, R^5, R^6 are: a hydrogen atom, an aromatic group, an aliphatic group, and a = 2 to 5.