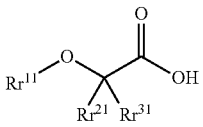
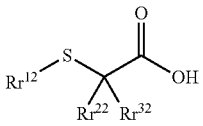
[Chemical Formula 50]

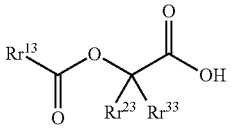
(g1-1)



(g1-2)



(g1-3)



In the formulas, Rr^{11} represents a hydrogen atom or a hydrocarbon group of 1 to 20 carbon atoms which may have a substituent, each of Rr^{21} and Rr^{31} independently represents a hydrogen atom or a hydrocarbon group of 1 to 20 carbon atoms which may have a substituent, and Rr^{21} and Rr^{31} may be bonded to each other to form a ring. Rr^{12} represents a hydrogen atom or a hydrocarbon group of 1 to 20 carbon atoms which may have a substituent, each of Rr^{22} and Rr^{32} independently represents a hydrogen atom or a hydrocarbon group of 1 to 20 carbon atoms which may have a substituent, and Rr^{22} and Rr^{32} may be bonded to each other to form a ring. Rr^{13} represents a hydrogen atom or a hydrocarbon group of 1 to 20 carbon atoms which may have a substituent, each of Rr^{23} and Rr^{33} independently represents a hydrogen atom or a hydrocarbon group of 1 to 20 carbon atoms which may have a substituent, and Rr^{23} and Rr^{33} may be bonded to each other to form a ring.

In formula (g1-1), Rr^{11}, Rr^{21} and Rr^{31} are the same as defined above for Rr^1, Rr^2 and Rr^3 respectively in general formula (g1).

Rr^{11} is preferably a hydrogen atom, a chain-like alkyl group of 1 to 15 carbon atoms which may have a substituent, a cyclic alkyl group of 3 to 20 carbon atoms which may have a substituent, or an aromatic hydrocarbon group of 5 to 20 carbon atoms which may have a substituent, and is more preferably a chain-like alkyl group of 1 to 15 carbon atoms which may have a substituent or an aromatic hydrocarbon group of 5 to 20 carbon atoms which may have a substituent.

It is preferable that Rr^{21} and Rr^{31} are either both hydrogen atoms, or are bonded to each other to form a ring, and it is particularly desirable that R^{21} and R^{31} are both hydrogen atoms.

In formula (g1-2), Rr^{12}, Rr^{22} and Rr^{32} are the same as defined above for Rr^{11}, Rr^{21} and Rr^{31} respectively in general formula (g1-1).

In formula (g1-3), Rr^{13}, Rr^{23} and Rr^{33} are the same as defined above for Rr^1, Rr^2 and Rr^3 respectively in general formula (g1).

Rr^{13} is preferably a hydrogen atom, a chain-like alkyl group of 1 to 15 carbon atoms which may have a substituent, a cyclic alkyl group of 3 to 20 carbon atoms which may have a substituent, or an aromatic hydrocarbon group of 5 to 20 carbon atoms which may have a substituent, is more preferably a cyclic alkyl group of 3 to 20 carbon atoms which may have a substituent, and is still more preferably a polycyclic cyclic alkyl group.

It is preferable that Rr^{23} and Rr^{33} are either both hydrogen atoms, or are bonded to each other to form a ring, and it is particularly desirable that Rr^{23} and Rr^{33} are both hydrogen atoms.

[Compound (G2)]

In formula (g2), examples of the hydrocarbon group of 1 to 20 carbon atoms which may have a substituent for Rs^1 include the same groups as those described above for Rr^1 in the aforementioned general formula (g1).

Rs^1 is preferably a fluorine atom or a fluorinated alkyl group.

The fluorinated alkyl group for Rs^1 is a group in which part or all of the hydrogen atoms of an alkyl group have each been substituted with a fluorine atom, wherein the alkyl group may be either a chain-like group or a cyclic group. Examples of the chain-like alkyl group include the same chain-like alkyl groups as those mentioned above within the description relating to Rr^1 in general formula (g1), and chain-like alkyl groups having 1 to 15 carbon atoms are preferable. Examples of the cyclic alkyl group include the same cyclic alkyl groups as those mentioned above within the description relating to Rr^1 in general formula (g1), and cyclic alkyl groups having 3 to 20 carbon atoms are preferable.

The fluorinated alkyl group is preferably a chain-like fluorinated alkyl group having 1 to 15 carbon atoms, more preferably 1 to 11 carbon atoms, still more preferably 1 to 8 carbon atoms, and most preferably 1 to 4 carbon atoms. Specific examples include groups in which part or all of the hydrogen atoms that constitute a linear alkyl group such as a methyl group, ethyl group, propyl group, butyl group, pentyl group, hexyl group, heptyl group, octyl group, nonyl group or decyl group have each been substituted with a fluorine atom, and groups in which part or all of the hydrogen atoms that constitute a branched alkyl group such as a 1-methylethyl group, 1-methylpropyl group, 2-methylpropyl group, 1-methylbutyl group, 2-methylbutyl group or 3-methylbutyl group have each been substituted with a fluorine atom.

Further, the fluorinated alkyl group for Rs^1 may include an atom other than the carbon, hydrogen and fluorine atoms. Examples of this atom other than the carbon, hydrogen and fluorine atoms include an oxygen atom, a sulfur atom and a nitrogen atom.

The fluorinated alkyl group for Rs^1 is preferably a group in which part or all of the hydrogen atoms that constitute a linear alkyl group have each been substituted with a fluorine atom. A group in which all of the hydrogen atoms that constitute a linear alkyl group have each been substituted with a fluorine atom (namely, a perfluoroalkyl group) is particularly desirable.

Rs^2 and Rs^3 are the same as defined above for Rr^2 and Rr^3 in general formula (g1).

Examples of the fluorinated alkyl group for Rs^4 include the same groups as those mentioned above for the fluorinated alkyl group for Rs^1.

m may be either 0 or 1.

[Compound (G3)]

In formula (g3), examples of the chain-like alkyl group of 1 to 15 carbon atoms and the cyclic alkyl group of 3 to 20 carbon atoms for Rt^1 include the same groups as those described above for the chain-like alkyl group and cyclic alkyl group for Rr^1 in the aforementioned general formula (g1).

Among the above possibilities, Rt^1 is preferably a chain-like or cyclic alkyl group of 1 to 15 carbon atoms, more preferably a chain-like alkyl group of 1 to 5 carbon atoms or a cyclic alkyl group of 5 to 10 carbon atoms, and most preferably a methyl group.