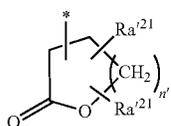


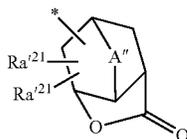
—O—C(=O)— in a ring skeleton thereof. When the lactone ring is counted as the first ring, a lactone-containing cyclic group in which the only ring structure is the lactone ring is called a monocyclic group, whereas a lactone-containing cyclic group containing other ring structure is called a polycyclic group regardless of the structure of the other rings. The lactone-containing cyclic group may be either a monocyclic group or a polycyclic group.

The lactone-containing cyclic group in the constituent unit (a2) is not particularly limited, and any optional lactone-containing cyclic group can be used. Specifically, examples thereof include groups represented by the following general formulae (a2-r-1) to (a2-r-7), respectively.

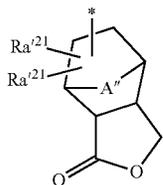
[Chemical formula 34]



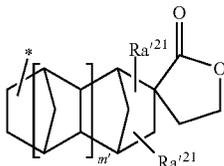
(a2-r-1)



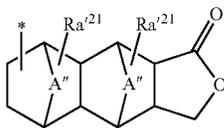
(a2-r-2)



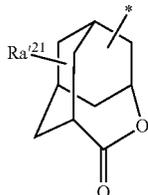
(a2-r-3)



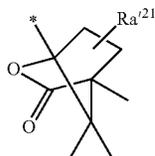
(a2-r-4)



(a2-r-5)



(a2-r-6)



(a2-r-7)

In the formulae, each Ra'²¹ independently represents a hydrogen atom, an alkyl group, an alkoxy group, a halogen

atom, a halogenated alkyl group, a hydroxyl group, —COOR'', —OC(=O)R'', a hydroxyalkyl group, or a cyano group; R'' represents a hydrogen atom, an alkyl group, a lactone-containing cyclic group, a carbonate-containing cyclic group, or a —SO₂—containing cyclic group; A'' represents an alkylene group having 1 to 5 carbon atoms, which may contain an oxygen atom (—O—) or a sulfur atom (—S—), an oxygen atom, or a sulfur atom; n' represents an integer of 0 to 2; and m' represents 0 or 1.

In the general formulae (a2-r-1) to (a2-r-7), the alkyl group in Ra'²¹ is preferably an alkyl group having 1 to 6 carbon atoms. The alkyl group is preferably linear or branched. Specifically, examples thereof include a methyl group, an ethyl group, a propyl group, an isopropyl group, an n-butyl group, an isobutyl group, a tert-butyl group, a pentyl group, an isopentyl group, a neopentyl group, and a hexyl group. Of these, a methyl group or an ethyl group is preferable, with a methyl group being especially preferable.

The alkoxy group in Ra'²¹ is preferably an alkoxy group having 1 to 6 carbon atoms. The alkoxy group is preferably linear or branched. Specifically, examples thereof include a group in which the alkyl group exemplified above as the alkyl group in Ra'²¹ and an oxygen atom (—O—) are connected to each other.

Examples of the halogen atom in Ra'²¹ include a fluorine atom, a chlorine atom, a bromine atom, and an iodine atom, with a fluorine atom being preferable.

Examples of the halogenated alkyl group in Ra'²¹ include a group in which some or all hydrogen atoms of the alkyl group in Ra'²¹ are substituted with a halogen atom. The halogenated alkyl group is preferably a fluorinated alkyl group, and especially preferably a perfluoroalkyl group.

In —COOR'' and —OC(=O)R'' in Ra'²¹, each R'' is a hydrogen atom, an alkyl group, a lactone-containing cyclic group, a carbonate-containing cyclic group, or a —SO₂—containing cyclic group.

The alkyl group in R'' may be linear, branched, or cyclic, and the number of carbon atoms thereof is preferably 1 to 15.

In the case where R'' is a linear or branched alkyl group, the number of carbon atoms thereof is preferably 1 to 10, and more preferably 1 to 5. Above all, R'' is especially preferably a methyl group or an ethyl group.

In the case where R'' is a cyclic alkyl group, the number of carbon atoms thereof is preferably 3 to 15, more preferably 4 to 12, and most preferably 5 to 10. Specifically, examples thereof include a group in which one or more hydrogen atoms are eliminated from a monocycloalkane, which may or may not be substituted with a fluorine atom or a fluorinated alkyl group; and a group in which one or more hydrogen atoms are eliminated from a polycycloalkane such as a bicycloalkane, a tricycloalkane, and a tetracycloalkane. More specifically,

examples thereof include a group in which one or more hydrogen atoms are eliminated from a monocycloalkane such as cyclopentane and cyclohexane; and a group in which one or more hydrogen atoms are eliminated from a polycycloalkane such as adamantane, norbornane, isobornane, tricyclodecane, and tetracyclododecane.

Examples of the lactone-containing cyclic group in R'' include the same groups as those represented by the general formulae (a2-r-1) to (a2-r-7), respectively.

The carbonate-containing cyclic group in R'' is the same as a carbonate-containing cyclic group to be described later. Specifically, examples thereof include groups represented by general formulae (ax3-r-1) to (ax3-r-3), respectively.

The —SO₂—containing cyclic group in R'' is the same as a —SO₂—containing cyclic group to be described later.