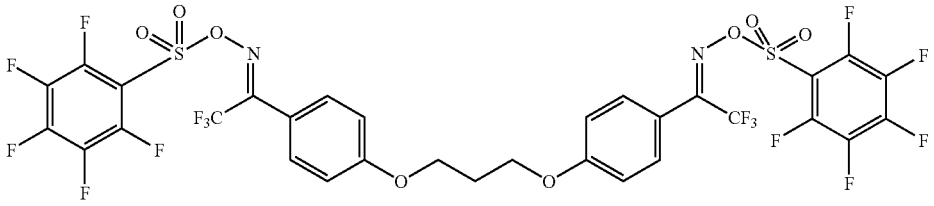
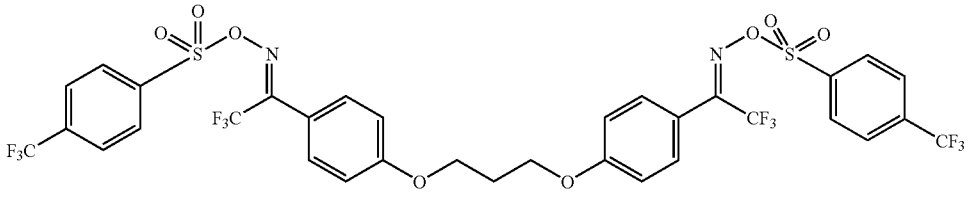
-continued

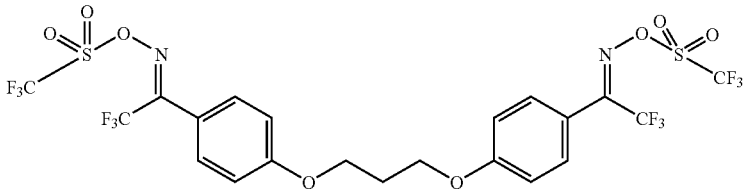
B-80



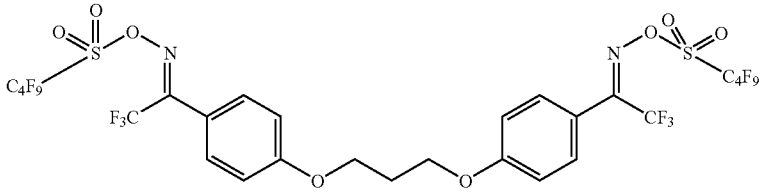
B-81



B-82



B-83



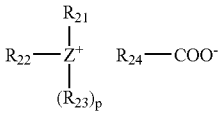
[0100] The content of the compound (B) is from 5 to 20 mass %, preferably from 6 to 18 mass %, more preferably from 7 to 16 mass %, based on the entire solid content of the photosensitive composition. The content is 5 mass % or more in view of sensitivity or line edge roughness and 20 mass % or less in view of resolving power, pattern profile and film quality. One of the compound (B) may be used, or two or more species thereof may be mixed and used. For example, a compound capable of generating an arylsulfonic acid upon irradiation with actinic rays or radiation and a compound capable of generating an alkylsulfonic acid upon irradiation with actinic rays or radiation may be used in combination as the compound (B).

[0101] The compound (B) can be synthesized by a known method such as synthesis method described in JP-A-2002-27806. (Compound (C) capable of generating a carboxylic acid upon irradiation with actinic rays or radiation)

[0102] In the positive resist composition of the present invention, a compound capable of generating a carboxylic acid upon irradiation with actinic rays or radiation (sometimes referred to as a "compound (C)" or a "carboxylic acid generator") may be used in combination with the sulfonic acid generator (compound (B)).

[0103] The carboxylic acid generator is preferably a compound represented by the following formula (C):

(C)



wherein R_{21} to R_{23} each independently represents an alkyl group, a cycloalkyl group, an alkenyl group or an aryl group, R_{24} represents a hydrogen atom, an alkyl group, a cycloalkyl group, an alkenyl group or an aryl group, Z represents a sulfur atom or an iodine atom, and p is 1 when Z is a sulfur atom, and 0 when Z is an iodine atom.

[0104] In formula (C), R_{21} to R_{23} each independently represents an alkyl group, a cycloalkyl group, an alkenyl group or an aryl group, and these groups each may have a substituent.

[0105] Examples of the substituent which the alkyl group, cycloalkyl group and alkenyl group each may have include a halogen atom (e.g., chlorine, bromine, fluorine), an aryl