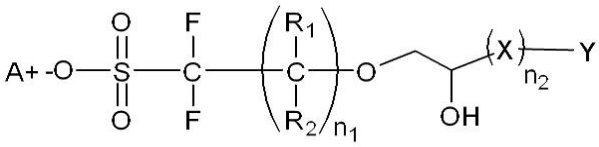
CLAIMS

1. A photoacid generator represented by the following formula (1):

[Chemical Formula 1]



wherein in the formula (1),

Y represents any one selected from the group consisting of an alkyl group, an alkenyl group, an alkoxy group, a cycloalkyl group, a heterocycloalkyl group, an aryl group and a heteroaryl group;

X represents any one selected from the group consisting of an alkanediyl, an alkenediyl, NR', S, O, CO and combinations thereof, while R' represents any one selected from the group consisting of a hydrogen atom and an alkyl group;

R_1 and R_2 each independently represent any one selected from the group consisting of a hydrogen atom, an alkyl group, an alkoxy group, ~~a perfluoroalkyl group, a perfluoroalkoxy group, a halogen group,~~ a hydroxyl group, a carboxyl group, a cyano group, a nitro group, an amino group and a thio group;

n_1 represents an integer or 1 or 2;

n_2 represents an integer from 0 to 5; and

A^+ represents an organic counterion.

2. The photoacid generator according to claim 1, wherein

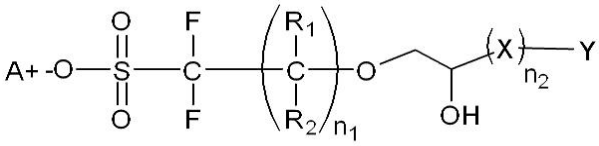
Y represents any one selected from the group consisting of an alkyl group, an alkenyl group, an alkoxy group, a cyclopentyl group, a cyclohexyl group, a

5. A method for producing a photoacid generator, the method comprising:

a first step of allowing a hydroxysulfonic acid salt to react with oxirane, and thereby producing a hydroxyethoxysulfonic acid salt; and

a second step of subjecting the hydroxyethoxysulfonic acid salt thus produced to a substitution reaction of the cation, and thereby producing a compound represented by the following formula (1):

[Chemical Formula 1]



wherein in the formula (1),

Y represents any one selected from the group consisting of an alkyl group, an alkenyl group, an alkoxy group, a cycloalkyl group, a heterocycloalkyl group, an aryl group and a heteroaryl group;

X represents any one selected from the group consisting of an alkanediyl, an alkenediyl, NR', S, O, CO and combinations thereof; R' represents any one selected from the group consisting of a hydrogen atom and an alkyl group;

R_1 and R_2 each independently represent any one selected from the group consisting of a hydrogen atom, an alkyl group, an alkoxy group, ~~a perfluoroalkyl group, a perfluoroalkoxy group, a halogen atom,~~ a hydroxyl group, a carboxyl group, a cyano group, a nitro group, an amino group and a thio group;

n_1 represents an integer or 1 or 2;

n_2 represents an integer from 0 to 5; and

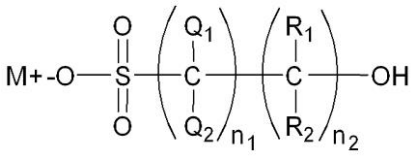
A^+ represents an organic counterion.

6. The method for producing a photoacid generator according to claim 5, wherein the hydroxysulfonic acid salt is represented by the following formula (6),

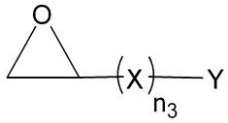
the oxirane is represented by the following formula (7), and

the hydroxyethoxysulfonic acid salt is represented by the following formula (8):

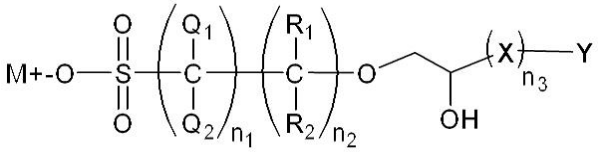
[Chemical Formula 6]



[Chemical Formula 7]



[Chemical Formula 8]



wherein in the formulas (6) to (8),

Y represents any one selected from the group consisting of an alkyl group, an alkenyl group, an alkoxy group, a cycloalkyl group, a heterocycloalkyl group, an aryl group and a heteroaryl group;

X represents any one selected from the group consisting of an alkanediyl, an alkenediyl, NR', S, O, CO and combinations thereof; R' represents any one selected from the group consisting of a hydrogen atom and an alkyl group;

R_1 and R_2 each independently represent any one selected from the group consisting of a hydrogen atom, an alkyl group, an alkoxy group, ~~a perfluoroalkyl group, a~~

~~perfluoroalkoxy group, a halogen atom,~~ a hydroxyl group, a carboxyl group, a cyano group, a nitro group, an amino group and a thio group;

n_1 represents an integer of 1 or 2;

n_2 represents an integer from 0 to 5; and

M^+ represents an alkali metal ion.

7. The method for producing a photoacid generator according to claim 5, wherein the first step is carried out by allowing the hydroxysulfonic acid salt and the oxirane to react in the presence of any one catalyst selected from the group consisting of an acidic catalyst and a basic catalyst.

8. The method for producing a photoacid generator according to claim 5, wherein the first step is carried out by mixing the hydroxysulfonic acid salt and the oxirane, and then allowing the mixture to react for 1 to 48 hours at 0°C to 100°C under stirring.

9. A resist composition comprising the photoacid generator according to any one of claims 1 to 4.