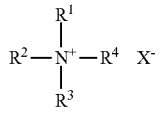
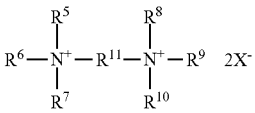
experiences no film thickness loss after development, and has a high sensitivity, minimized LWR and improved CDU.

In one aspect, the invention provides a chemically amplified resist composition comprising a quencher containing a quaternary ammonium salt selected from the group consisting of a quaternary ammonium iodide, quaternary ammonium dibromoiodide, quaternary ammonium bromodiiodide, and quaternary ammonium triiodide, and an acid generator.

In one preferred embodiment, the quaternary ammonium salt has the formula (1) or (2).



(1)



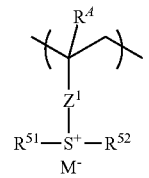
(2)

Herein R^1 to R^4 and R^5 to R^{10} are each independently a C_1-C_{24} straight, branched or cyclic alkyl group, C_2-C_{24} straight, branched or cyclic alkenyl group, C_2-C_{24} straight, branched or cyclic alkynyl group, or C_6-C_{24} aryl group, which may contain a halogen, hydroxyl, carboxyl, ether, ester, thiol, thioester, thionoester, dithioester, amino, nitro, sulfone or ferrocenyl moiety, a pair of R^1 and R^2, R^1 and R^4, R^2 and R^3, and/or R^3 and R^4 may bond together to form a ring, or a pair of R^1 and R^2, R^1 and R^4, R^2 and R^4, or R^3 and R^4, taken together, may form a double bond, R^{11} is a C_2-C_{12} straight, branched or cyclic alkylene group which may contain an ether and/or ester moiety, X^- is an anion selected from the group consisting of I^-, Br_2I^-, BrI_2^- and I_3^-.

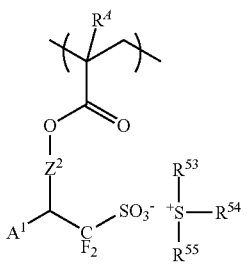
In one preferred embodiment, the acid generator is capable of generating sulfonic acid, imidic acid or methide acid.

The resist composition may further comprise a base polymer.

In owe preferred embodiment, the base polymer comprises recurring units of at least one type selected from recurring units having the formulae (f1) to (f3).

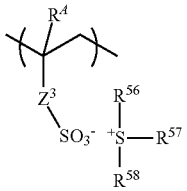


(f1)



(f2)

-continued

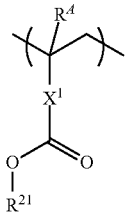


(f3)

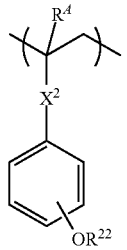
Herein R^A is each independently hydrogen or methyl. Z^1 is a single bond, phenylene, —O—Z^{11}—, or —C(═O)—Z^{12}—Z^{11}—, Z^{11} is a C_1-C_6 straight, branched or cyclic alkylene group or C_2-C_6 straight, branched or cyclic alkenylene group which may contain a carbonyl, ester, ether or hydroxyl moiety, or phenylene group, Z^{12} is —O— or —NH—. R^{51}, R^{52}, R^{53}, R^{54}, R^{55}, R^{56}, R^{57}, and R^{58} are each independently a C_1-C_{12} straight, branched or cyclic alkyl group which may contain a carbonyl, ester or ether moiety, or a C_6-C_{12} aryl, C_7-C_{20} aralkyl, or mercaptophenyl group. Z^2 is a single bond, —Z^{21}—C(O)O—, —Z^{21}—O—, or —Z^{21}—O—C(═O)—, Z^{21} is a C_1-C_{12} straight, branched or cyclic alkylene group which may contain a carbonyl, ester or ether moiety. Z^3 is a single bond, methylene, ethylene, phenylene, fluorinated phenylene, —O—Z^{31}—, or —C(═O)—Z^{32}—Z^{31}—, Z^{31} is a C_1-C_6 straight, branched or cyclic alkylene group or C_2-C_6 straight, branched or cyclic alkenylene group which may contain a carbonyl, ester, ether or hydroxyl moiety, or a phenylene, fluorinated phenylene or trifluoromethyl-substituted phenylene group, Z^{32} is —O— or —NH—. A^1 is hydrogen or trifluoromethyl, and M^- is a non-nucleophilic counter ion.

In one preferred embodiment, the acid generator also functions as a base polymer. In this case, the acid generator is a polymer comprising recurring units of at least one type selected from recurring units having the formulae (f1) to (f3) defined above.

In one preferred embodiment, the base polymer comprises recurring units having the formula (a1) or recurring units having the formula (a2).



(a1)



(a2)

Herein R^A is each independently hydrogen or methyl, R^{11} and R^{12} are each independently an acid labile group, X^1 is a single bond, phenylene, naphthylene, or a C_1-C_{12} linking group containing ester moiety or lactone ring, and X^2 is a single bond or ester group.