salts, iodonium salts, sulfonyldiazomethane, N-sulfonyloxyimide, and oxime-O-sulfonate acid generators. Suitable PAGs are as exemplified in U.S. Pat. No. 7,537,880 (JP-A 2008-111103, paragraphs [0122]-[0142]).

[0112] Also sulfonium salts having the formula (1-1) and iodonium salts having the formula (1-2) are useful PAGs.

$$R^{101} = \begin{array}{c} R^{101} \\ S^{+} \\ S^{+} \\ R^{103} \end{array}$$

$$R^{104} = \begin{array}{c} R^{104} \\ S^{+} \\ S^{-} \end{array}$$
(1-2)

[0113] In formulae (1-1) and (1-2), R^{101} to R^{105} are each independently a C_1 - C_{20} monovalent hydrocarbon group which may contain a heteroatom. Any two of R^{101} , R^{102} and R^{103} may bond together to form a ring with the sulfur atom to which they are attached. The monovalent hydrocarbon group may be straight, branched or cyclic, and examples thereof are as exemplified above for R^{21} to R^{28} in formulae (d1) to (d3).

[0114] Examples of the cation of the sulfonium salt having formula (1-1) are shown below, but not limited thereto.