1 to 4 carbon atoms), a halogen atom, a hydroxyl group, an alkoxy group (having 1 to 4 carbon atoms), a carboxy group, and an alkoxycarbonyl group (having 2 to 6 carbon atoms), and a group having 8 or less carbon atoms is preferable.

[0207] The content of the sum of the repeating units having acid-decomposable groups is preferably 20 to 90 mol %, more preferably 25 to 85 mol %, and even more preferably 30 to 80 mol % with respect to the all repeating units in the resin (A).

[0208] Specific examples of the repeating unit having an acid-decomposable group are provided below, but the present invention is not limited thereto.

[0209] In the specific examples, Rx and Xa₁ each independently represent a hydrogen atom, CH₃, CF₃, or CH₂OH. Rxa and Rxb each represent an alkyl group having 1 to 4 carbon atoms. Z represents a substituent including a polar group, and in a case where there are a plurality of Z's, Z's each independently represent a substituent including a polar group. p represents 0 or a positive integer. Examples of the substituent including a polar group represented by Z include a linear or branched alkyl group having a hydroxyl group, a cyano group, an amino group, an alkylamido group, or a sulfonamide group, or a cycloalkyl group, and the substituent is preferably an alkyl group having a hydroxyl group. The branched alkyl group is more preferably an isopropyl group.

$$\begin{array}{c|c}
Rx \\
\hline
+CH_2-C+\\
\hline
+O \\
\hline
+O \\
Rxa \\
\hline
+Rxb
\end{array}$$

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$$\begin{array}{c|c}
 & \text{CH}_2 - \text{C} \\
 & \text{O} = \text{C} \\
 & \text{Rxa} \\
 & \text{O}
\end{array}$$

-continued

$$\begin{array}{c|c}
Rx & & 4 \\
\hline
(CH_2-C) & & \\
O = C & Rxa & \\
\hline
O & & \\
\end{array}$$
(Z)p

$$\begin{array}{c}
Rx \\
CH_2-C \\
O = C \\
C
\end{array}$$

$$\begin{array}{c}
Rxa \\
O \\
CZ)p
\end{array}$$

$$\begin{array}{c}
Rx \\
-CH_2-C \\
O=C \\
O\end{array}$$

$$\begin{array}{c}
Rxa \\
O\end{array}$$

$$\begin{array}{c}
(Z)p
\end{array}$$

$$\begin{array}{c|c}
Rx & & 7 \\
\hline
CH_2-C & & \\
O = C & Rxa & \\
\hline
O & & \\
CZ)p
\end{array}$$

$$\begin{array}{c|c}
Rx & & & & \\
 & \downarrow & \downarrow & \\
 &$$