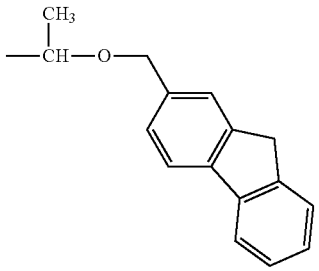
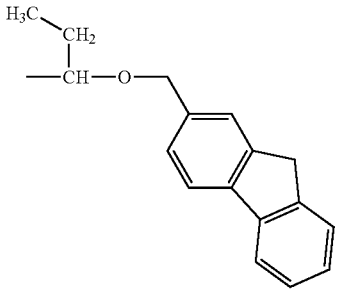
-continued

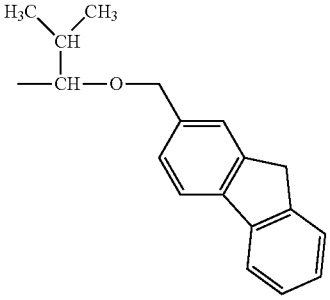
(AL-2)-67



(AL-2)-68



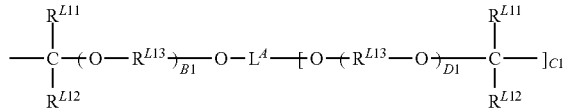
(AL-2)-69



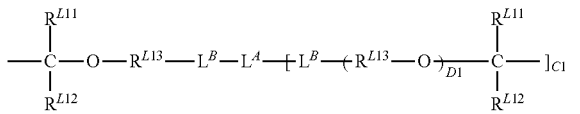
**[0082]** Of the acid labile groups having formula (AL-2), suitable cyclic groups include tetrahydrofuran-2-yl, 2-methyltetrahydrofuran-2-yl, tetrahydropyran-2-yl, and 2-methyltetrahydropyran-2-yl.

**[0083]** Also included are acid labile groups having the following formulae (AL-2a) and (AL-2b). The base polymer may be crosslinked within the molecule or between molecules with these acid labile groups.

(AL-2a)



(AL-2b)

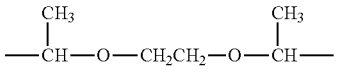


**[0084]** In formulae (AL-2a) and (AL-2b), $R^{L11}$ and $R^{L12}$ are each independently hydrogen or a $C_1$-$C_8$ saturated hydrocarbyl group which may be straight, branched or cyclic. Also, $R^{L11}$ and $R^{L12}$ may bond together to form a ring with the carbon atom to which they are attached, and in this case, $R^{L11}$ and $R^{L12}$ are each independently a $C_1$-$C_8$ alkanediyl group. $R^{L13}$ is each independently a $C_1$-$C_{10}$ saturated hydrocarbylene group which may be straight, branched or cyclic. B1 and D1 are each independently an integer of 0 to 10, preferably 0 to 5, and C1 is an integer of 1 to 7, preferably 1 to 3.

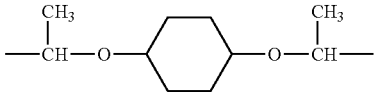
**[0085]** In formulae (AL-2a) and (AL-2b), $L^A$ is a (C1+1)-valent $C_1$-$C_{50}$ aliphatic or alicyclic saturated hydrocarbon group, aromatic hydrocarbon group or heterocyclic group. In these groups, some carbon may be replaced by a heteroatom-containing moiety, or some carbon-bonded hydrogen may be substituted by a hydroxyl, carboxyl, acyl moiety or fluorine. $L^A$ is preferably a $C_1$-$C_{20}$ saturated hydrocarbylene group, saturated hydrocarbon group (e.g., trivalent or tetravalent saturated hydrocarbon group), or $C_6$-$C_{30}$ arylene group. The saturated hydrocarbon group may be straight, branched or cyclic. $L^B$ is —CO—O—, —NHCO—O— or —NHCONH—.

**[0086]** Examples of the crosslinking acetal groups having formulae (AL-2a) and (AL-2b) include groups having the formulae (AL-2)-70 to (AL-2)-77.

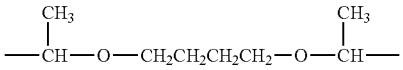
(AL-2)-70



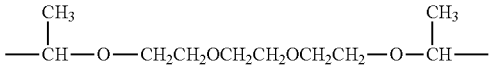
(AL-2)-71



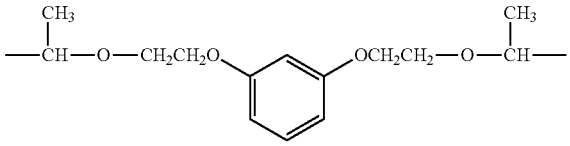
(AL-2)-72



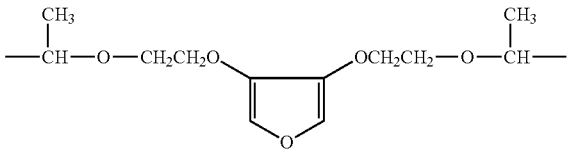
(AL-2)-73



(AL-2)-74



(AL-2)-75



(AL-2)-76