

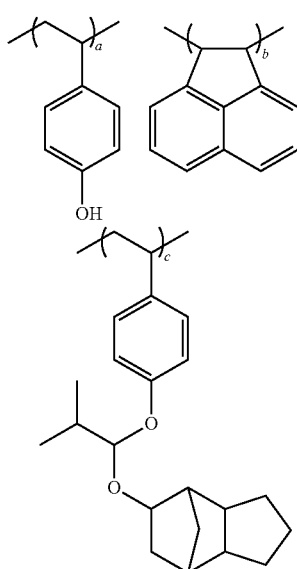
vacuum. This polymer layer was dissolved in a mixed solvent of 0.45 L of methanol and 0.54 L of THF again, and 160 g of triethylamine and 30 g of water were added thereto. This was heated to 60° C. to perform deprotection reaction for 40 hours. This deprotected reaction solution was concentrated in vacuum, and 548 g of methanol and 112 g of acetone were added to the concentrated liquid to be solution. With stirring, 990 g of hexane was added dropwise. After finishing the dropwise addition, this was placed for 30 minutes, allowing to separate to two layers. To the under layer (polymer layer), 300 g of THF was added, and 1,030 g of hexane was added dropwise with stirring. The under layer (polymer layer) was concentrated in vacuum after 30 minutes. The obtained polymer solution was neutralized using 82 g of acetic acid, and the solution was concentrated. Then, this was dissolved in 0.3 L of acetone, followed by addition of 10 L of water to precipitate. This was filtered off and dried to give 280 g of white polymer. The obtained polymer was subjected to <sup>1</sup>H-NMR and GPC measurements to reveal that this was a polymer with a copolymerization ratio of hydroxystyrene:acenaphthylene=89.3:10.7, Mw of 5,000, and Mw/Mn of 1.63.

**[0239]** Under acid conditions, 100 g of the obtained polymer was allowed to react with 50 g of (2-methyl-1-propenyl) methyl ether, followed by neutralization, liquid separation treatment, and precipitation step to give a polymer-1. The yield was 125 g.

[Synthesis Examples 2-2 to 2-8] Synthesis of  
Polymers-2 to

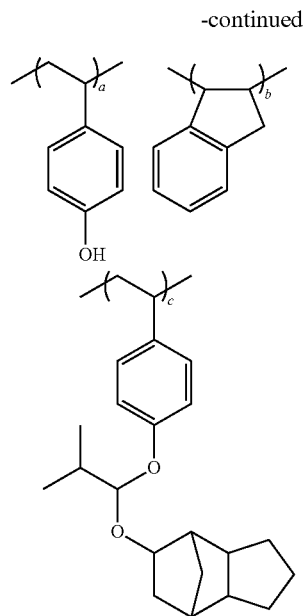
**[0240]** In the same way as in Synthesis Example 2-1 except for changing the kinds of each monomer and incorporation ratio (molar ratio), Polymers-2 to 8 were synthesized.

**[0241]** The structures of Polymers-1 to 8 are shown below.



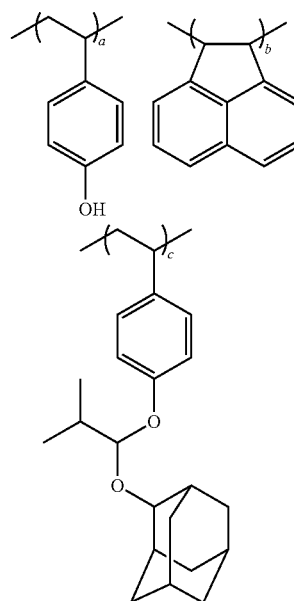
(a = 0.76, b = 0.12, c = 0.12, Mw = 5,500)

Polymer-1



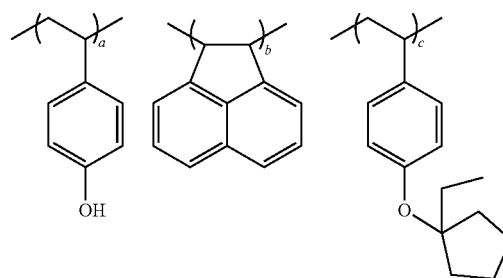
(a = 0.76, b = 0.11, c = 0.13, Mw = 5,800)

Polymer-2



(a = 0.78, b = 0.11, c = 0.11, Mw = 5,500)

Polymer-3



(a = 0.69, b = 0.10, c = 0.21, Mw = 4,000)

Polymer-4