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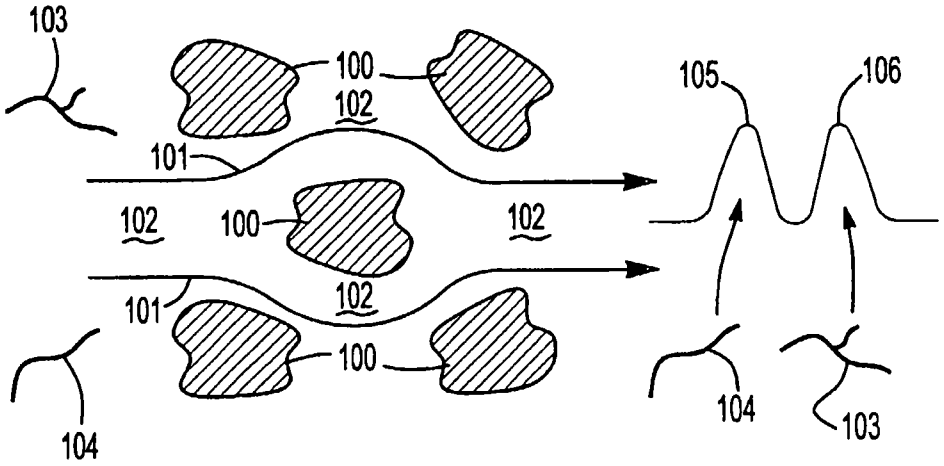
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(54) Title: MOLECULAR TOPOLOGICAL FRATIONATION OF MACROMOLECULES



(57) Abstract: A process for characterizing a sample comprising a population of linear macromolecules of interest (104) and a population of long chain branched macromolecules of interest (103), the process including four steps. The first step is to provide a flow through separating medium (100) and a liquid eluant (101) in which the macromolecules of interest dissolve, the separating medium defining flow through channels (102), the eluant flow rate and the average diameter of the channels being in a range so that the linear macromolecules of interest elute before the long chain branched macromolecules of interest (105) (106). The second step is to introduce a sample into the liquid eluant. The third step is to flow the liquid eluant under pressure through the channels (102) of the separating medium (100). The fourth step is to differentiate the linear macromolecules of interest (104) from the long chain branched macromolecules of interest (103) based on their successive elution volumes established in the third step such as by determining the refractive index of the successive elution volumes or by subjecting the successive elution volumes to size exclusion chromatography.

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