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(54) Title: HIGH CAPACITY ION CHROMATOGRAPHY STATIONARY PHASE AND METHOD OF FORMING

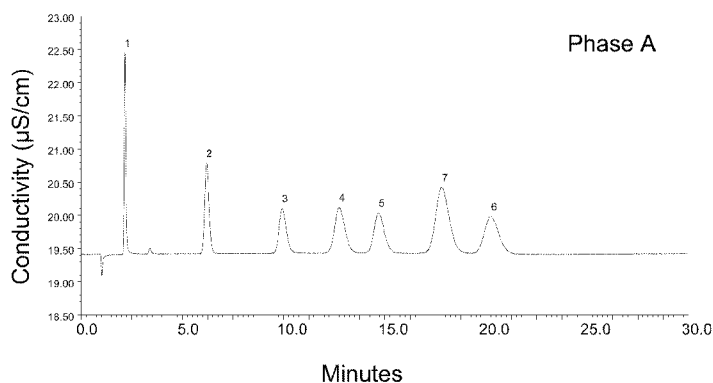


Figure 1

(57) Abstract: The present invention provides a new design for high capacity stationary phases for chromatography, for example, ion chromatography. The stationary phases include a first polymer layer in contact with and at least partially coating the substrate of the stationary phase. The first polymer layer serves as a foundation for the attachment, and in various embodiments, the growth and attachment, of a highly hyperbranched polymer structure, typically based on one or more products of condensation polymerization. Multiple components are of use in forming the first polymer layer and the hyperbranched polymer structure, thereby providing a stationary phase that can be engineered to have a desired property such as ion capacity, ion selectivity, and the like. Exemplary condensation polymers are formed by the reaction of at least one polyfunctional compound with at least one compound of complimentary reactivity, e.g., a nucleophilic polyfunctional compound reacting with an electrophilic compound.

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