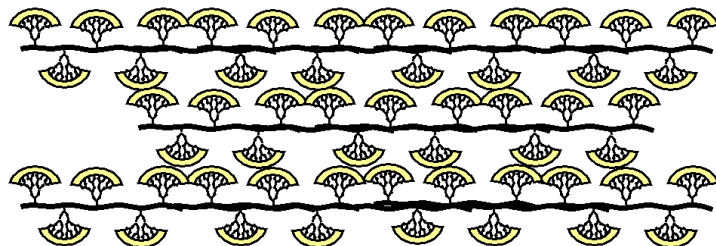
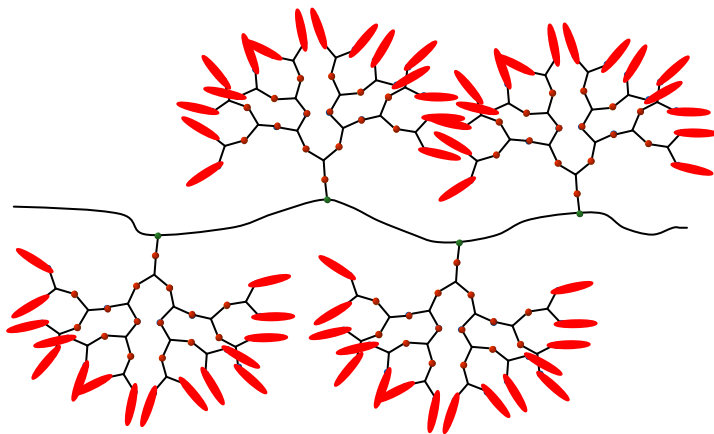


Aggregation of dendronized polymers

Dendritic polymers are highly branched structures with a huge number of functional groups and a great application potential. Combining linear and dendritic polymers the dendronized polymers, have been developed. This special group of dendritic polymers exhibits a linear backbone with a number of grafted, dendritic side chains, which can be functionalized. In this way it is possible to reach large dimensions, high molar masses and extremely high functionality within one molecule.



However, the complex branching structures entail challenging molecular characterization. The separation of these polymers is strongly limited due to their large dimensions and high number of functional groups leading to interactions with the SEC column packing material and aggregation. Due to these facts asymmetrical flow field-flow fractionation (AF4) is used for their molar mass and size characterization together with static and dynamic light scattering and atomic force microscopy. The combination of these techniques enables clear understanding of the shape of the dendronized polymers on a molecular level on the one hand and on the other hand their aggregation behaviour can be systematically studied.