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(54) Title: MACROCYCLIC POLY(ALKANE)S AND POLY(ALKANE-CO-ALKENE)S

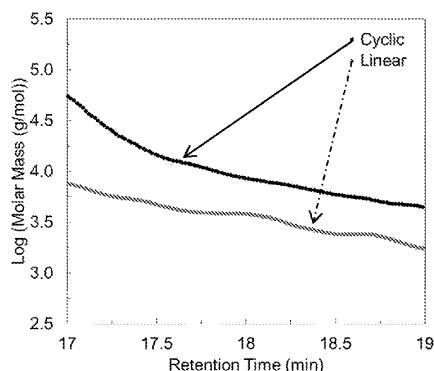


FIG. 1

(57) Abstract: Macrocytic polyalkene homopolymers and copolymers can be formed and converted to macrocytic polyalkanes or macrocytic poly(alkane-co-alkene) upon hydrogenation or, when the macrocytic polyalkene is reacted with an alkene in the presence of an olefin metathesis catalyst, to a macrocytic poly(alkane-co-alkene) comprising vicinal -C(=CR2)-s. Upon hydrogenation of a macrocytic poly(alkane-co-alkene) comprising vicinal -C(=CR2)-s, macrocytic poly(alkane)s or poly(alkane-co-alkene)s with isolated -C(=CR2)- groups can be provided, depending on the degree of hydrogenation. The poly(alkane-co-alkene)s with isolated -C(=CR2)- units can be used to form poly(macrocytic poly(alkane-co-alkene))s, poly(macrocytic poly(alkane))s, and/or bi-, tri-, and/or multi-macrocytic poly(alkane-co-alkene)s or bi-, tri-, and/or multi-macrocytic poly(alkane)s.