

ABSTRACT

NEW POLYALPHA-OLEFIN COMPOSITIONS AND PROCESSES TO
PRODUCE THE SAME

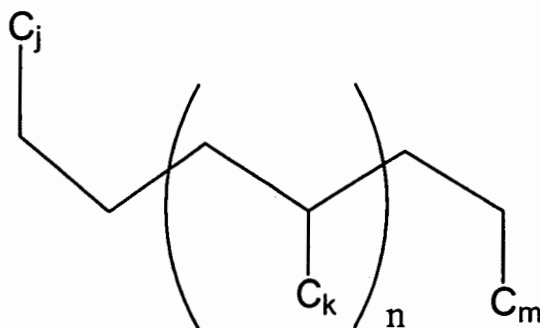
5 This invention relates to a polyalpha-olefin (and hydrogenated analogs thereof) comprising more than 50 mole % of one or more C5 to C24 alpha-olefin monomers where the polyalpha-olefin has:

a) 40 mole % or more of mm triads,

b) a Bromine number of Y or greater, where Y is equal to $89.92 * (V)^{0.5863}$,

10 where V is the Kinematic Viscosity of the polyalpha-olefin measured at 100°C in cSt, and

c) 1,2 disubstituted olefins present at 7 mole % or more, preferably having Z mole % or more of units represented by the formula:



15 where j, k and m are each, independently, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, or 22, n is an integer from 1 to 350, and where Z = $8.420 * \text{Log}(V) - 4.048$, where V is the kinematic viscosity of the polyalpha-olefin
20 measured at 100°C in cSt

 This invention also relates to process to produce such polyalpha-olefins.