

Comment on the Paper of Dr. Kalyanam

Sequence Analysis of Head-Head Vinyl Homopolymers by ^{13}C NMR Spectroscopy

I quite agree with Dr. Kalyanam paper which supplements and corrects ours in two respects :

- 1) based on symmetry consideration it is true that the unsymmetrical mMr and rRm tetrad have unequivalent methylene carbons so that each of them should be characterized by two distinct ^{13}C resonances ;
- 2) the relative intensities of the resonances can be interpreted in term of an imaginary process with defined probabilities for "meso head on" and "meso tail on" addition.

For experimental reasons, however, it should be remembered that :

- i) nothing can be said a priori for the chemical shift difference between all the stereochemically distinct methylene ^{13}C resonances which should be attributed from model compounds ;
- ii) considering the chemical process by which H to H polystyrene and polyvinylbutadiene are prepared from 1-4 poly(2-3 diphenylbutadiene) H_{Pm} and T_{Pm} are not independent quantities but related to both the structure of the starting polybutadiene and the stereospecificity of the reduction process.

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