



N-15 NMR Spectroscopy as a  
Method for Comparing the Rates  
of Imidization of Several Diamines

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## N-15 NMR Spectroscopy as a Method for Comparing the Rates of Imidization of Several Diamines (Paperback)

By -

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.The relative rates of the conversion of amide-acid to imide was measured for a series of aromatic diamines that have been identified as potential replacements for 4,4 - methylene dianiline (MDA) in high-temperature polyimides and polymer composites. These rates were compared with the N-15 NMR resonances of the unreacted amines. The initial rates of imidization track with the difference in chemical shift between the amine nitrogens in MDA and those in the subject diamines. This comparison demonstrated that N-15 NMR spectroscopy is appropriate for the rapid screening of candidate diamines to determine their reactivity relative to MDA, and can serve to provide guidance to the process of creating the time-temperature profiles used in processing these materials into polymer matrix composites.



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