

Evaluation of a Combined Thermal/Chemical Wood Modification by the Use of FTIR Spectroscopy and Chemometric Methods

Ms. Priya Panday

Lecturer (Department of Chemistry),
Government Polytechnic College, Adityapur, Jamshedpur, Jharkhand, India

Abstract: *In this study, the combined effects of chemical (with tricine and bicine) and thermal treatments were investigated. The modifications which appeared in the wood structure were evaluated by infrared spectroscopy and chemometric methods (principal component analysis and hierarchical cluster analysis). After the treatment, about 6e7% of WPG was identified in treated samples, but further thermal treatment decreased the WPG to about 5%. The modifications appearing in the spectra were mostly related to increase of the intensities of the bands assigned to CJO groups but also to NeH and CeN groups, with shifting of some bands to higher wave number values.*

Keywords: chemometric methods