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N85-32408

EVA-GLASS INTERFACE BOND STABILITY

CASE WESTERN RESERVE UNIVERSITY

Jack L. Koenig

1. DEVELOP SPECTRAL METHODS FOR DETERMINING STRUCTURE OF POLYMER/GLASS INTERFACE (ACCOMPLISHED)
2. EXAMINE STRUCTURAL CHANGES ASSOCIATED WITH HYDROTHERMAL DEGRADATION OF POLYMER/GLASS INTERFACE (IN PROGRESS)
3. DEVELOP METHODS OF INHIBITING THE DEGRADATION REACTION OCCURRING AT POLYMER/GLASS INTERFACE (FUTURE)

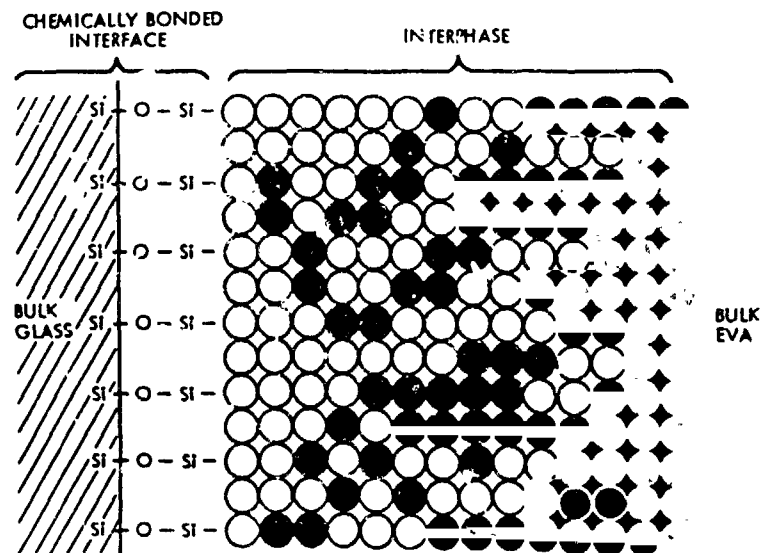


Figure 13. Schematic Representation of the Interdiffusion Model for a Silane-Primed Glass-EVA Joint; Open Circles Indicate Regions of Coupling Agent, Filled Circles Indicate Regions of EVA

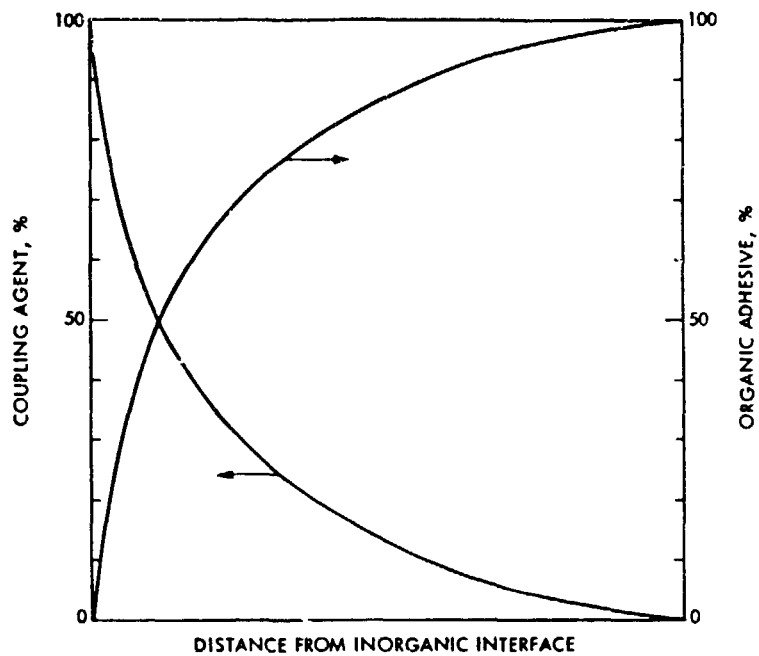
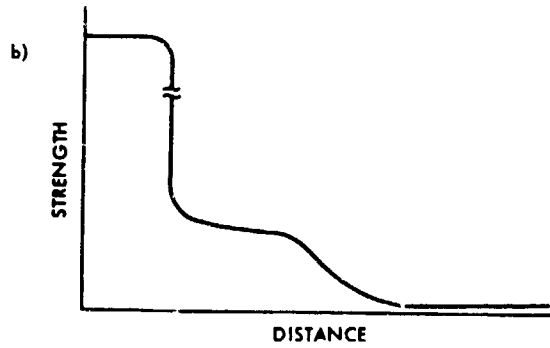
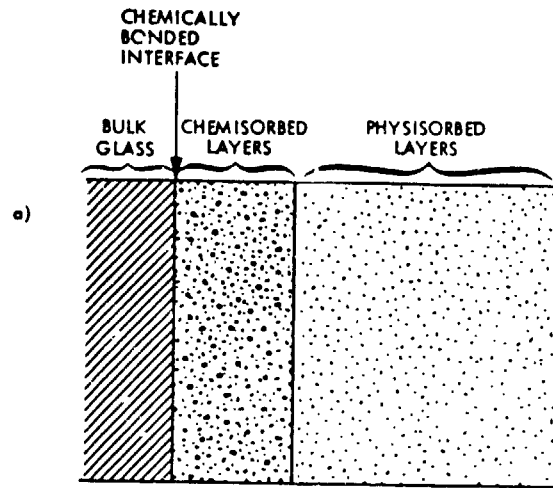
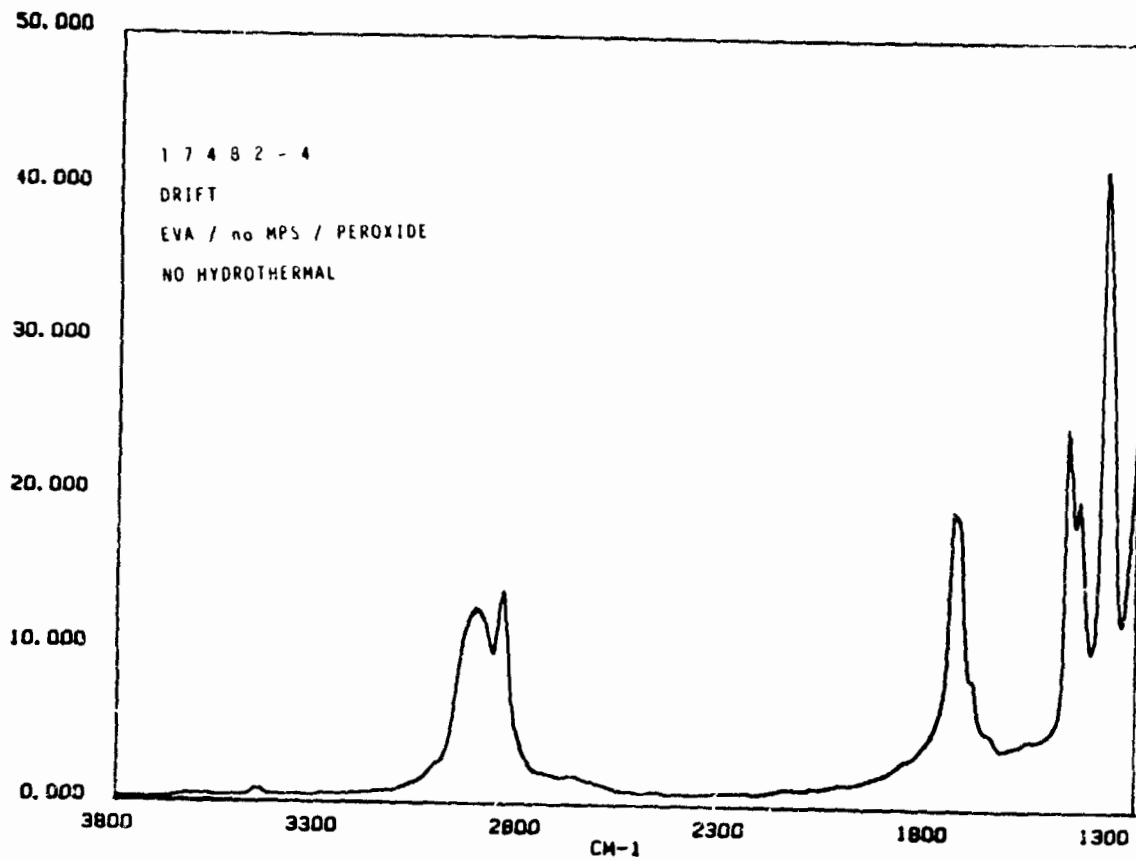
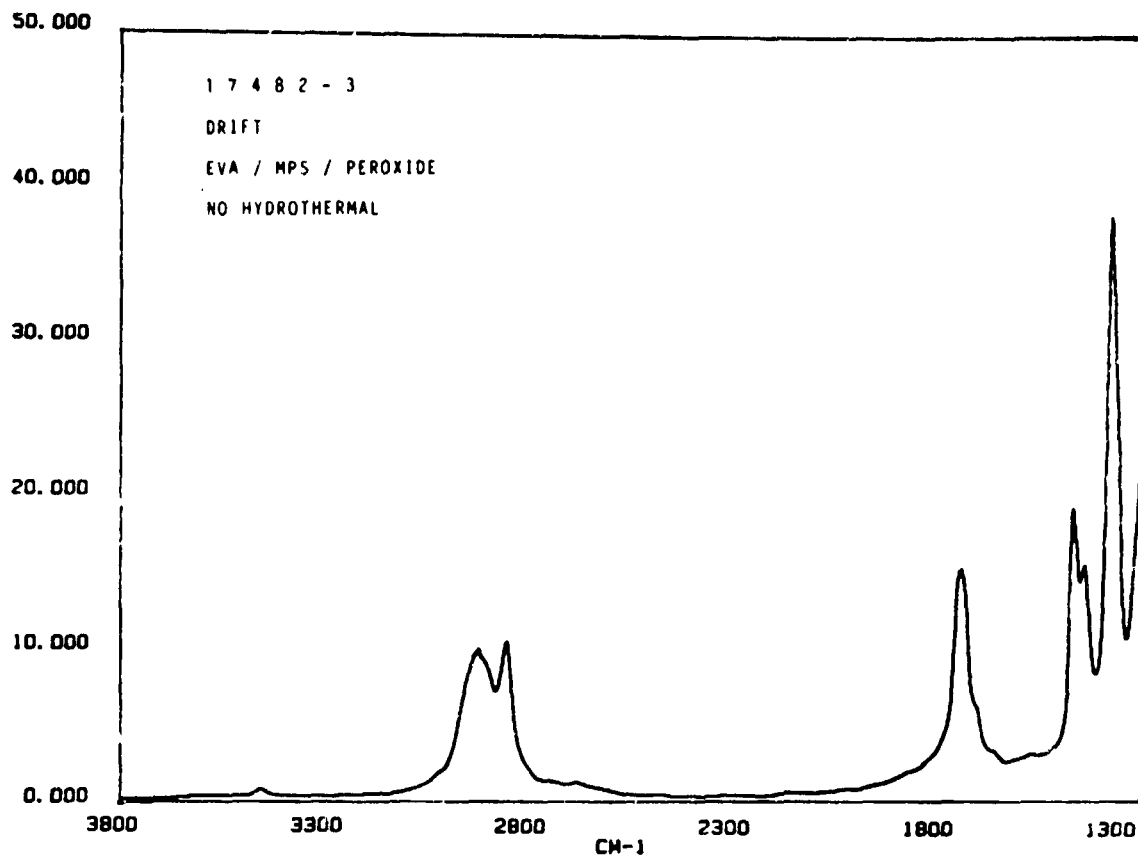


Figure 14. Plot of Silane-Adhesive Concentration Gradient as a Function of Distance From Inorganic Interface

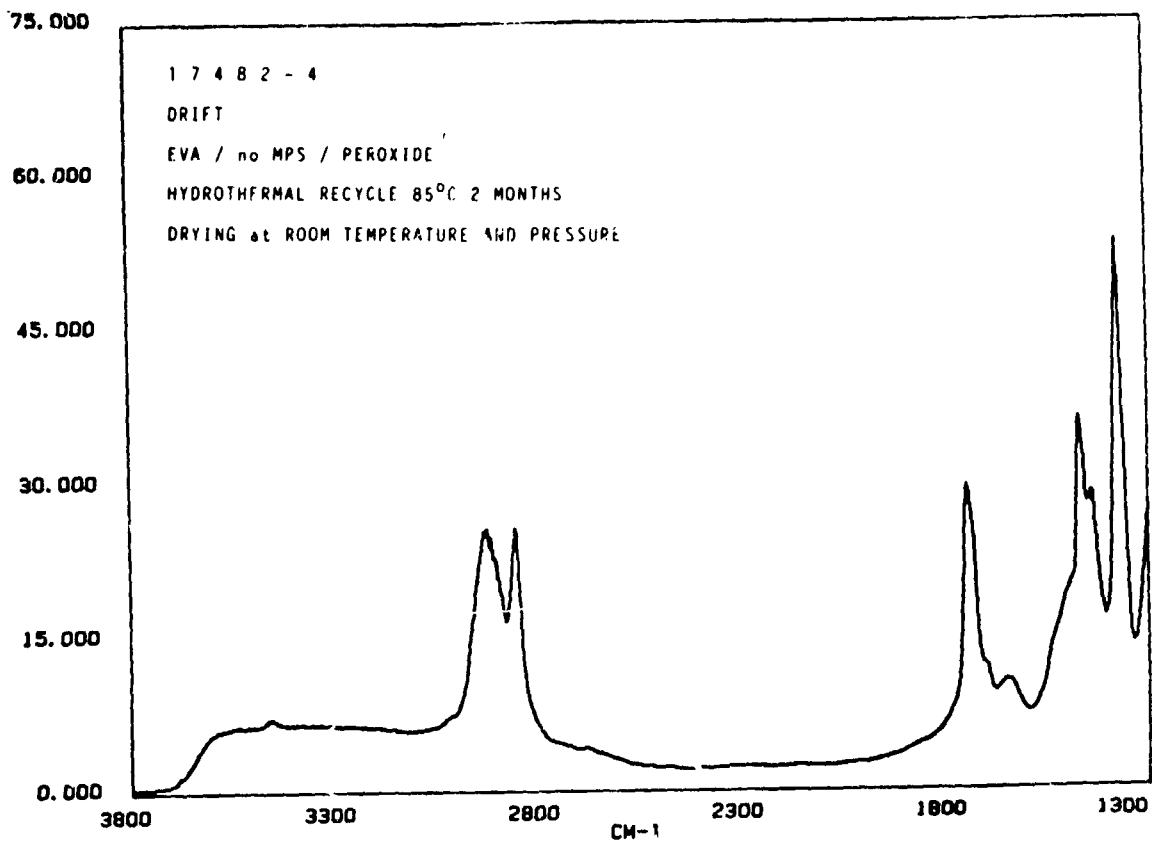


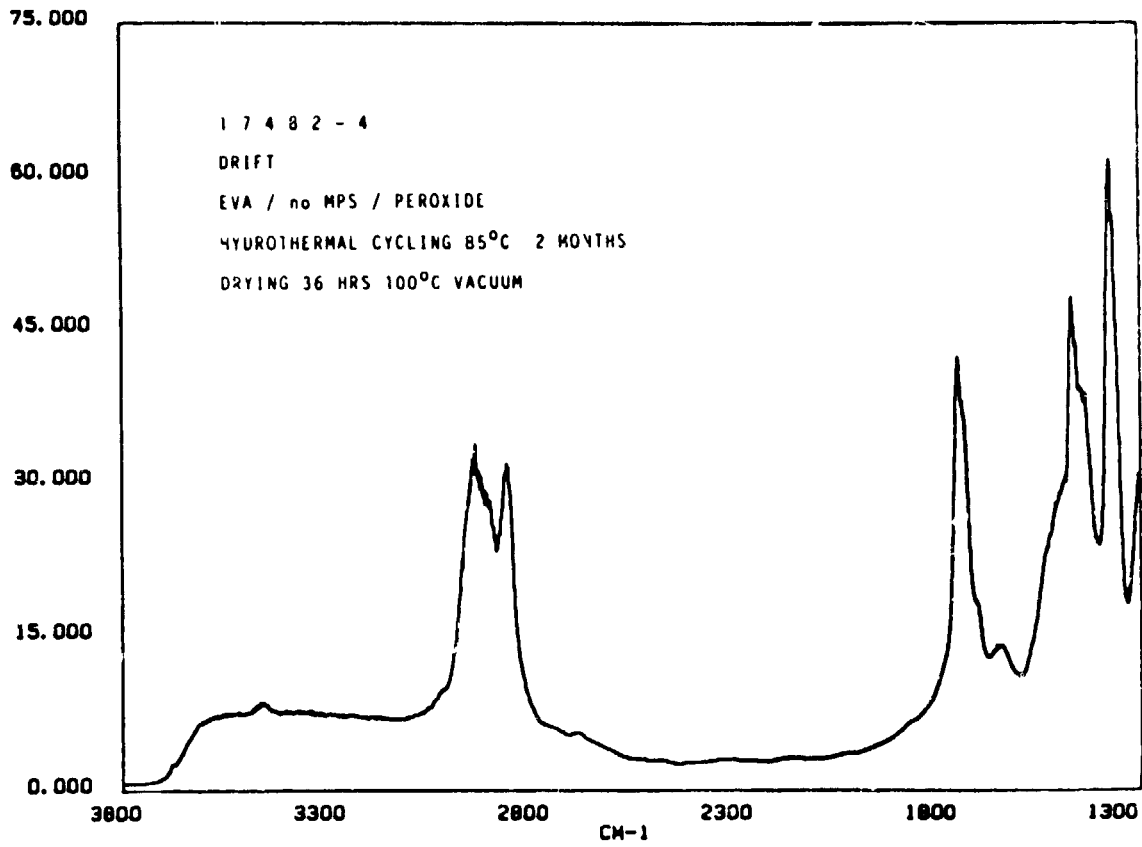
RELIABILITY PHYSICS



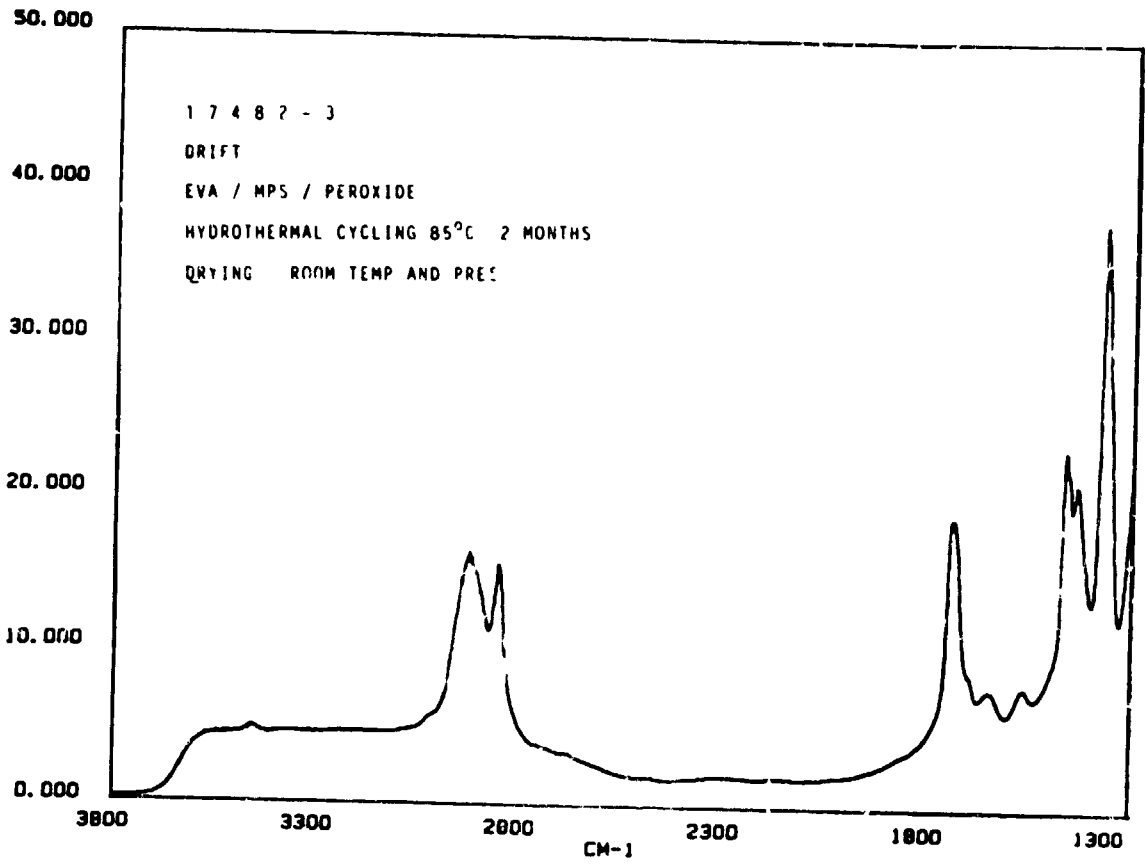


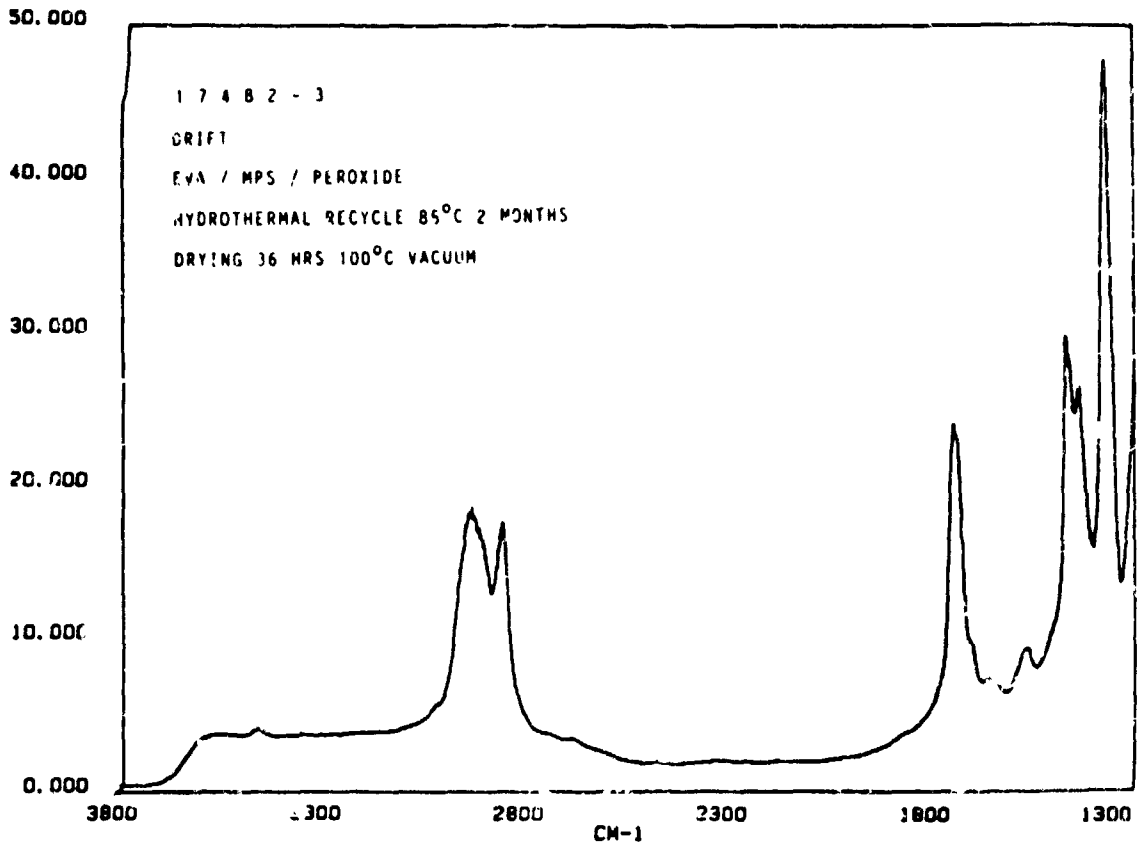
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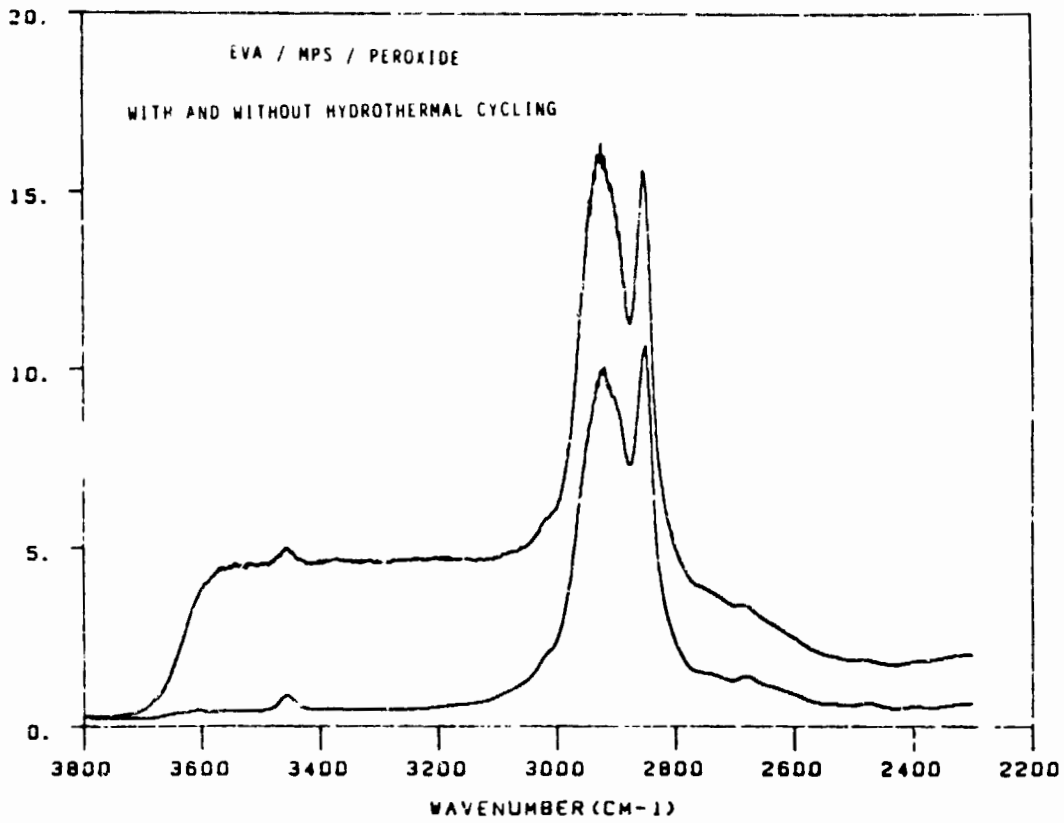


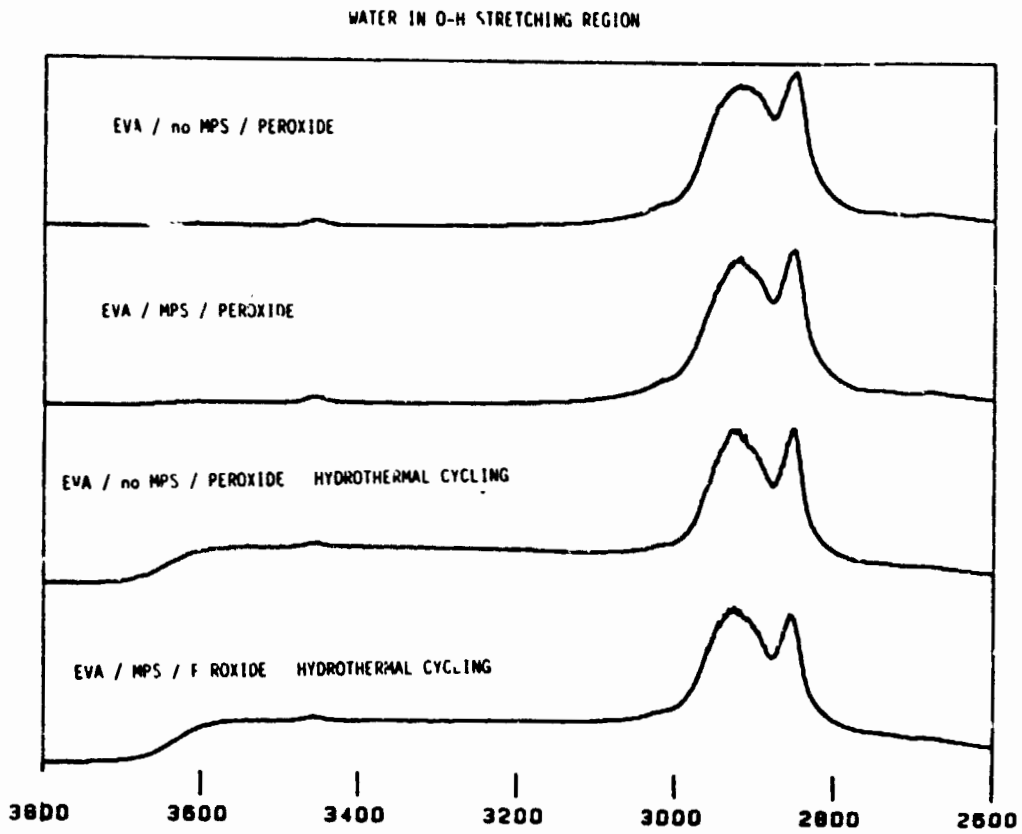
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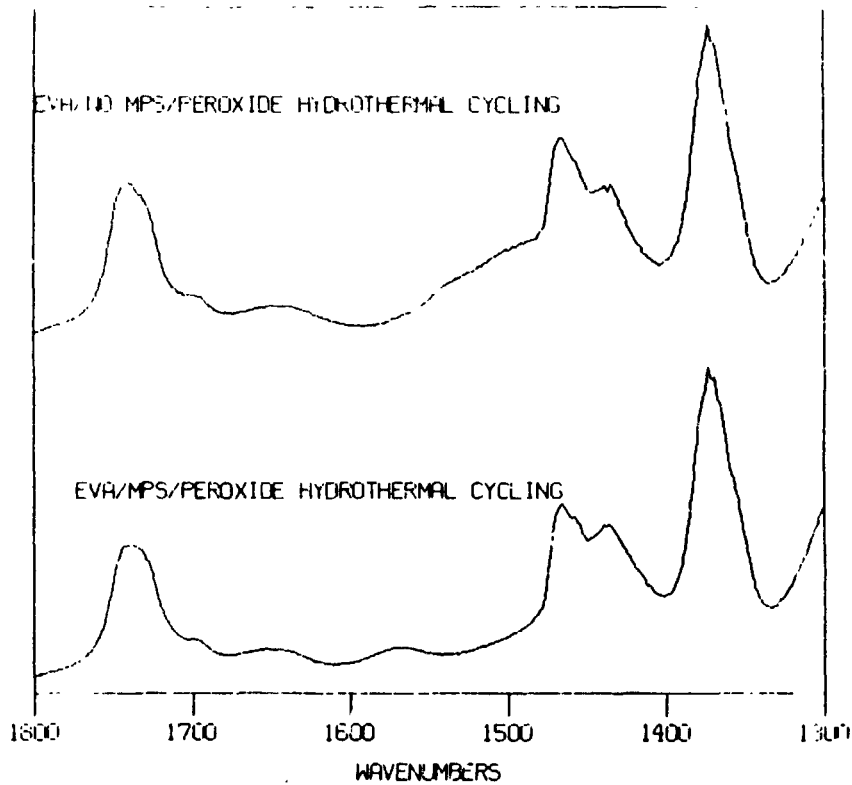
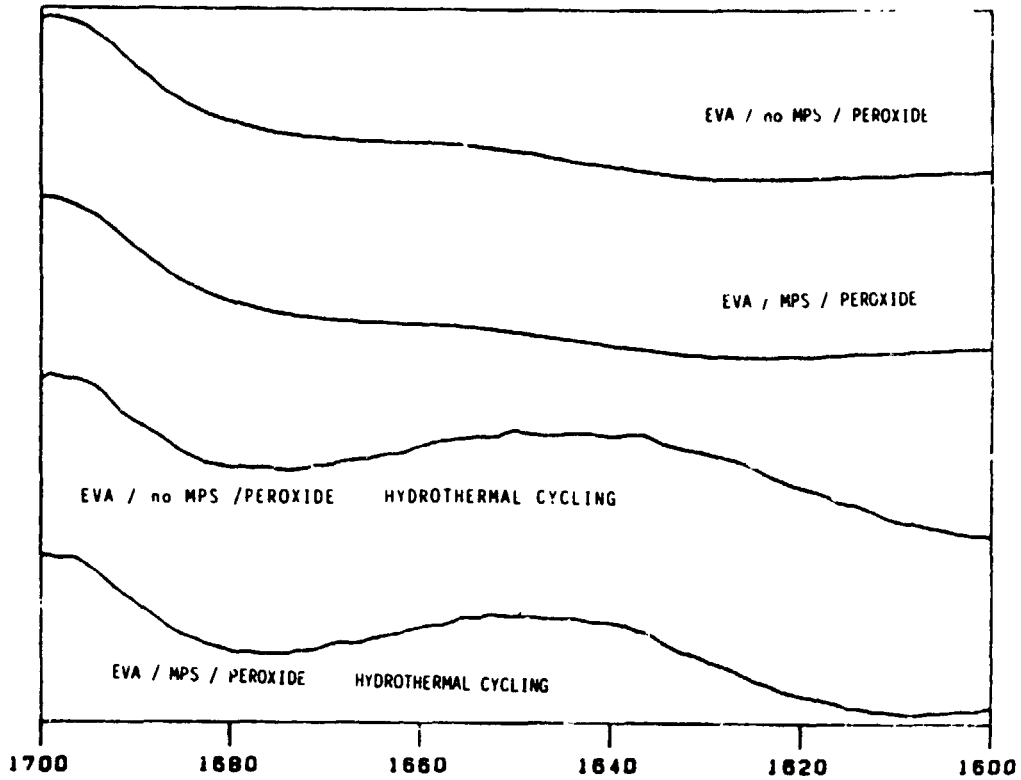


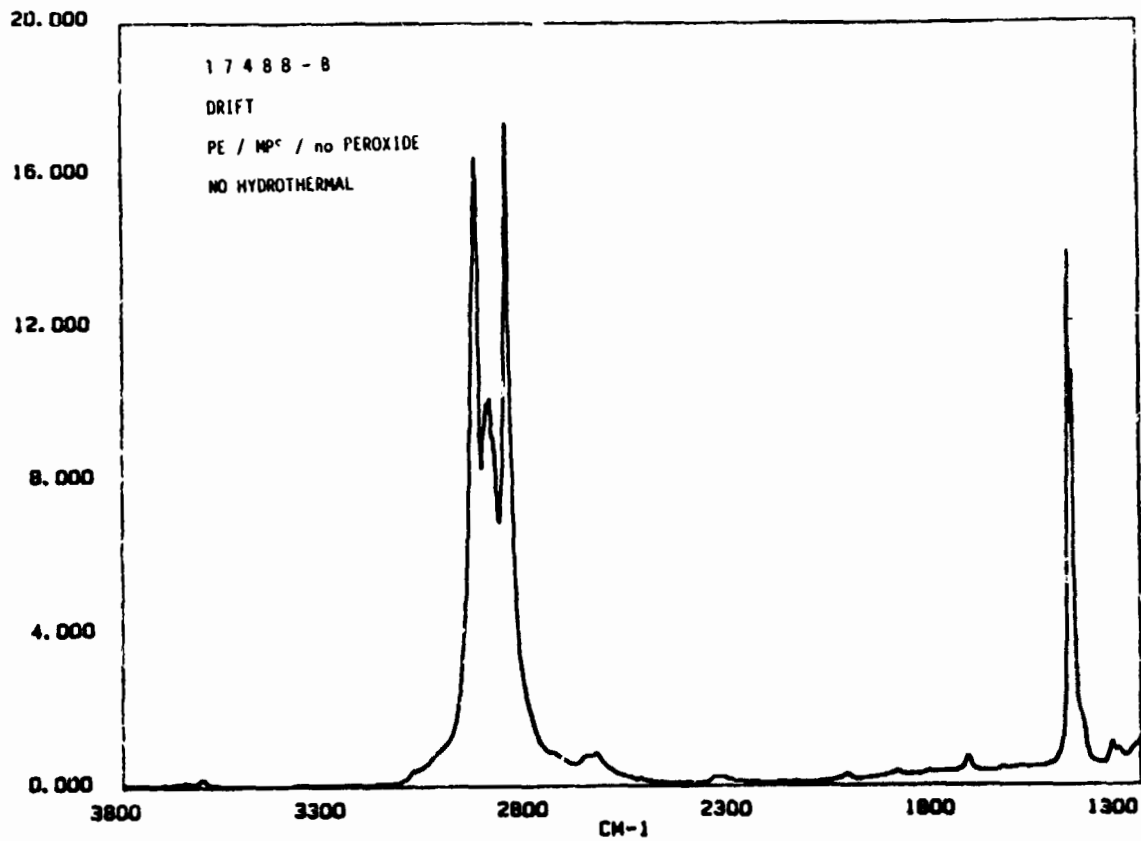
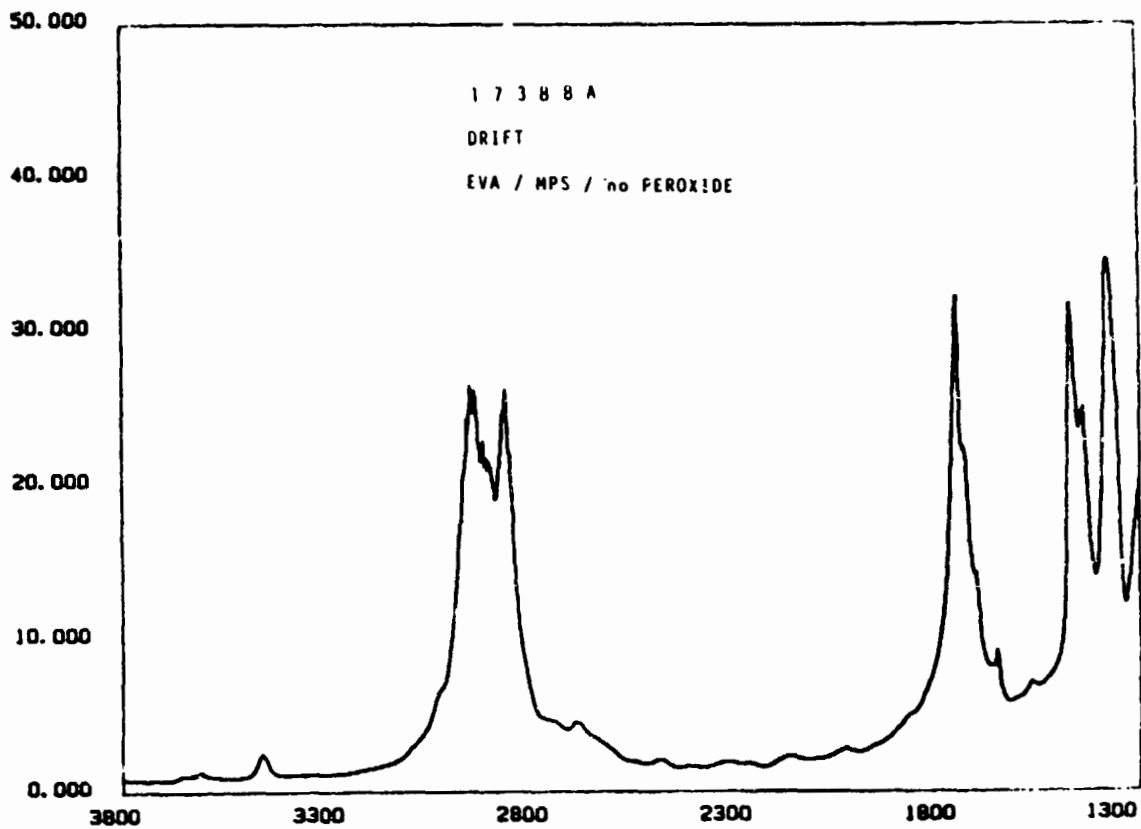


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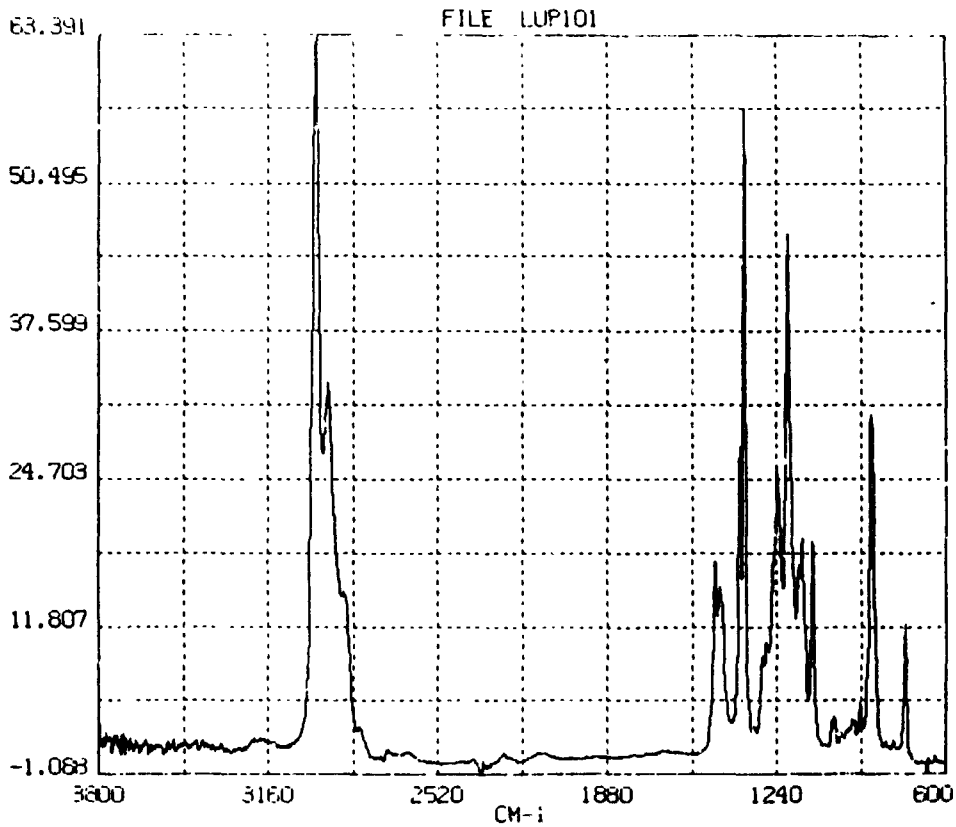
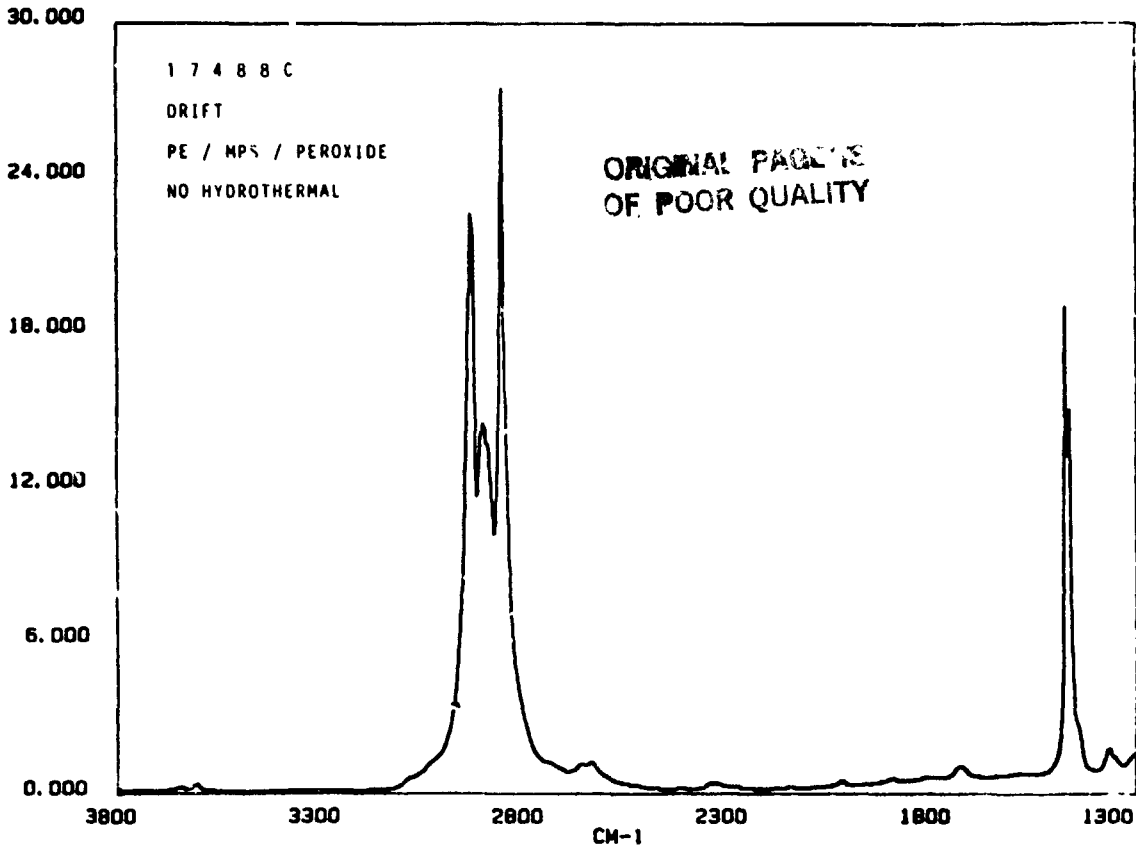
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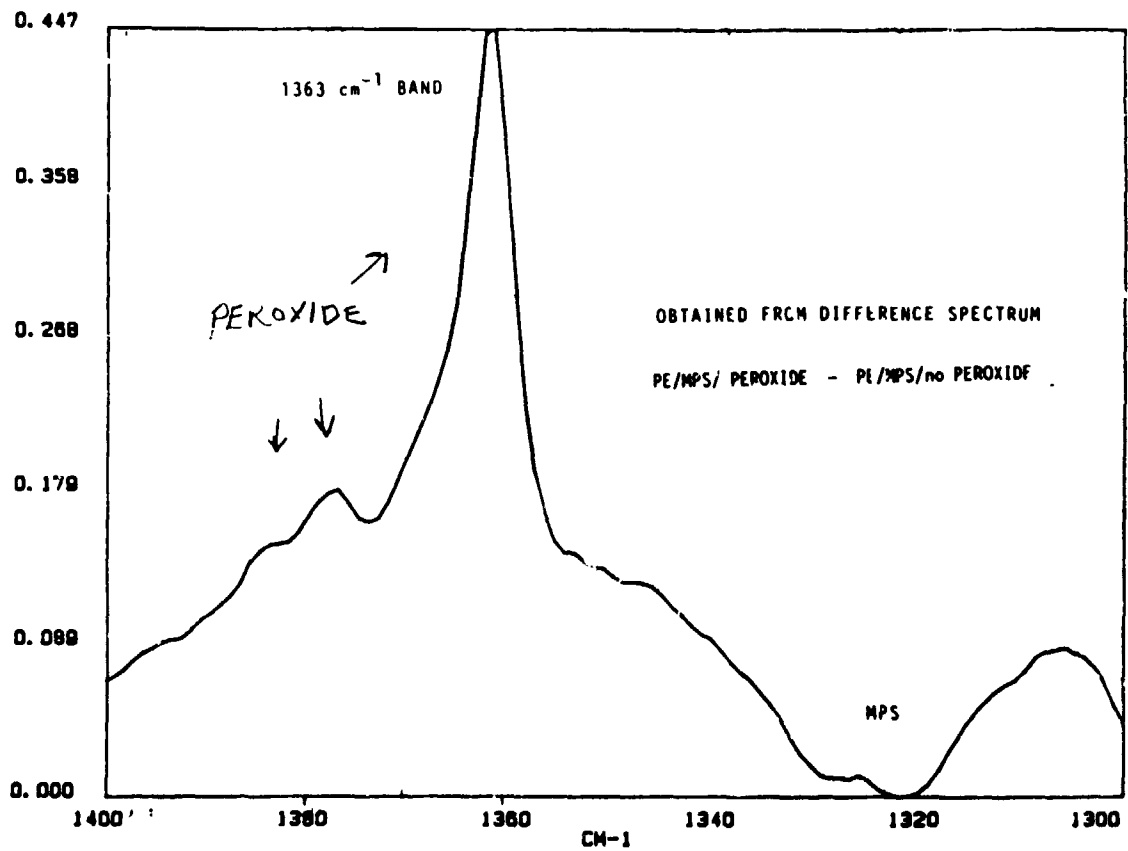
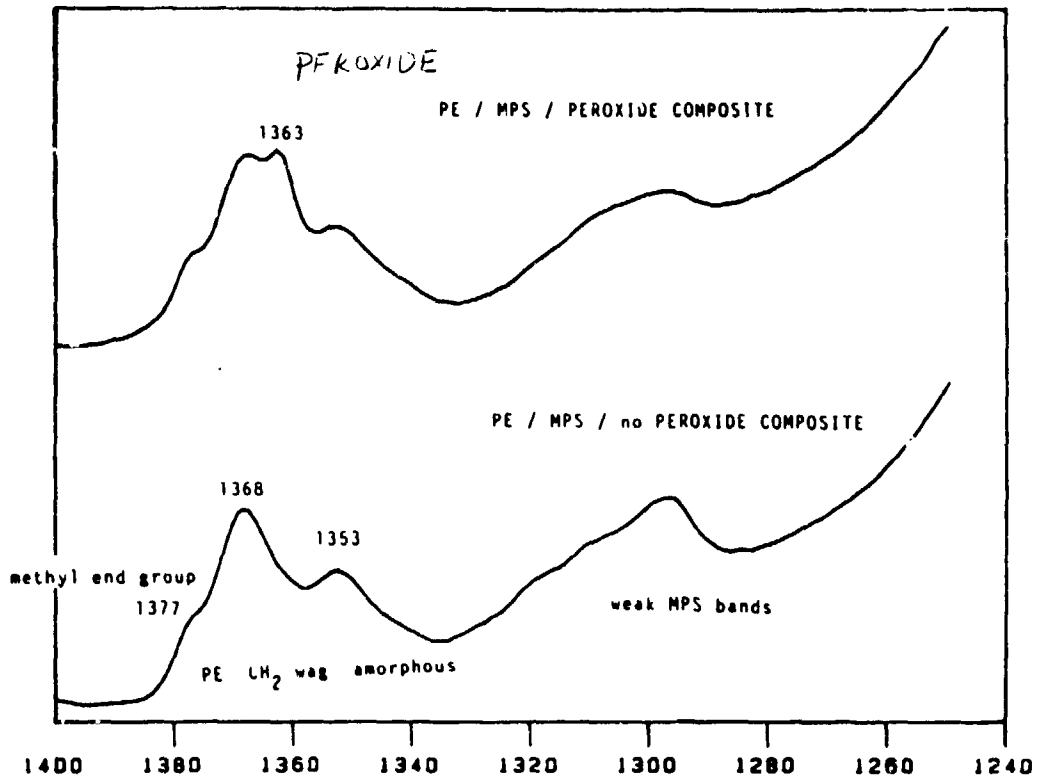
WATER IN O-H BENDING REGION 1640 cm



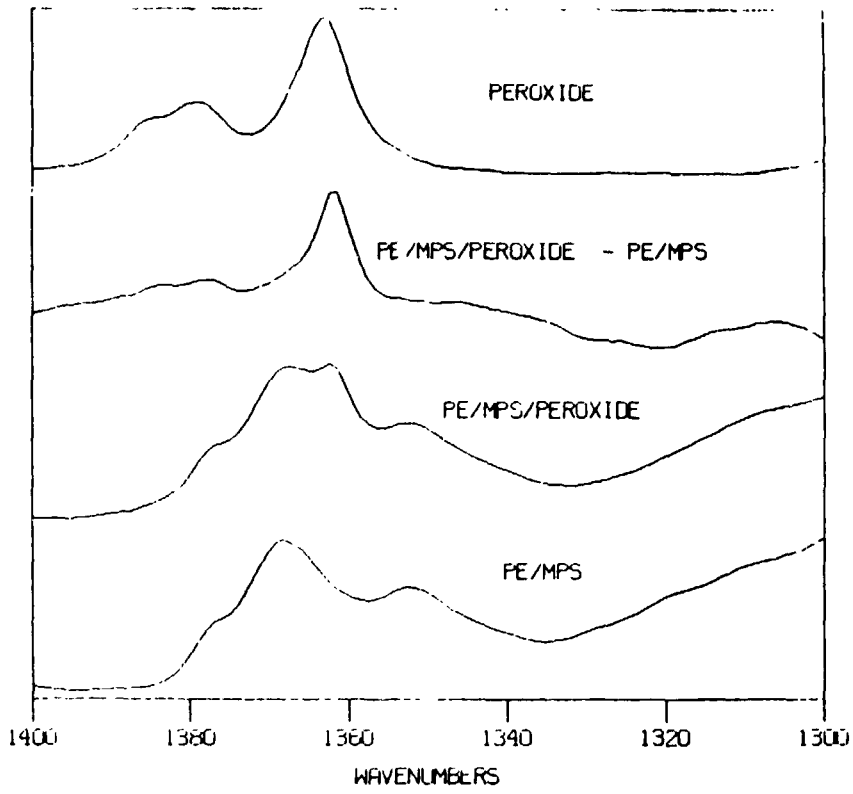


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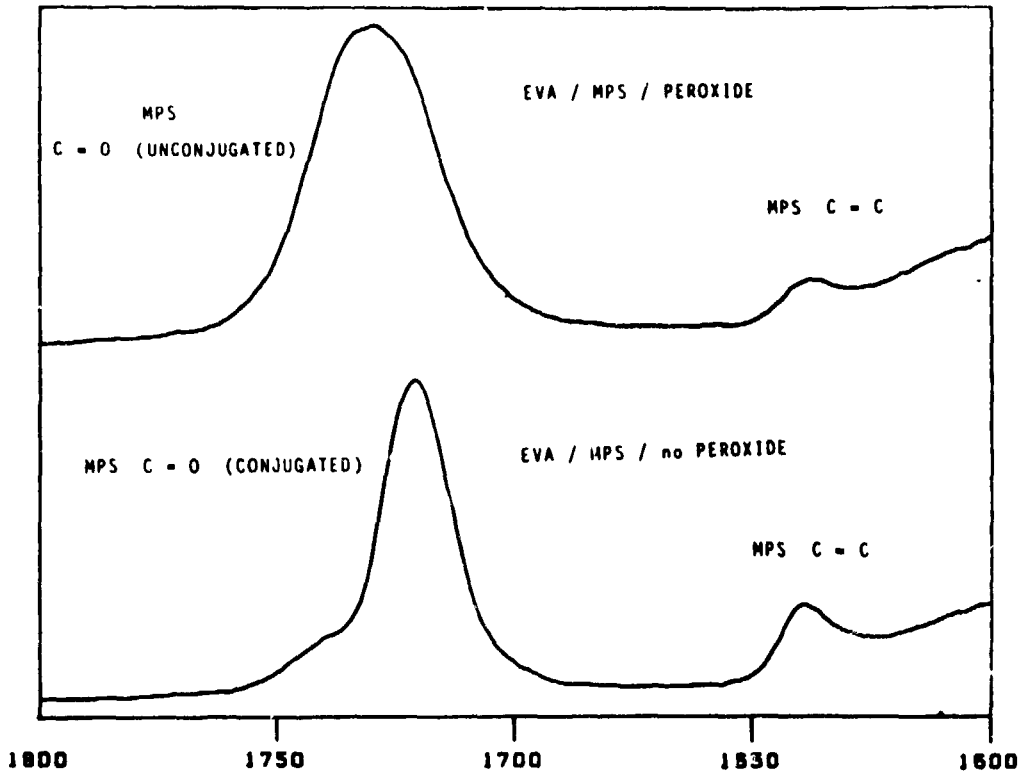




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COMPOSITE INTERFACE



MPS Reaction in PE

	<u>C=C / C=O</u>	<u>%</u>
MPS neat	0.138	100
PE / MPS	0.107	77.5
PE / MPS / peroxide	0.027	19.6

Weaker Interfacial Bands

