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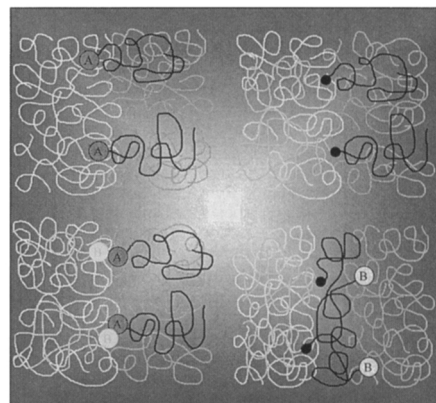
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ON THE COVER: The adhesive properties of polymer-polymer interphases can be enhanced considerably by promoting interpenetration and entanglement of molecules across the interphase. The schematic illustrates a number of interfacially active additives that are successful in modifying the interphase between two immiscible homopolymers (i.e., the pink and blue molecules). At top left, the interphase is bridged by an end-functional dark blue molecule. The end group A is designed to react with or interact strongly with the pink molecule while the blue tail entangles itself with the blue homopolymer. At top right, a diblock copolymer bridges the interphase by entangling itself on both sides of the interphase. The schematic at bottom left illustrates modification of the interphase through the reaction of or complexation of two end-functional homopolymers with complementary A and B end groups. The schematic at lower right illustrates how an end-functional block copolymer can be designed to modify the interphase. The red sequence is designed to entangle itself with the pink homopolymers, and the green sequence is designed to bring the block copolymer to the interphase. The end-functional block copolymer is a selective adhesive since it will adhere only when the B end group has a strong interaction or reaction with the blue homopolymer. Further details are contained within the article by J.T. Koberstein on page 19 of this issue.

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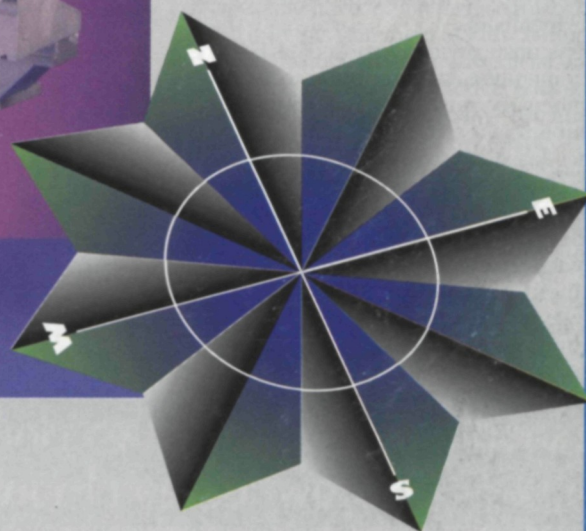
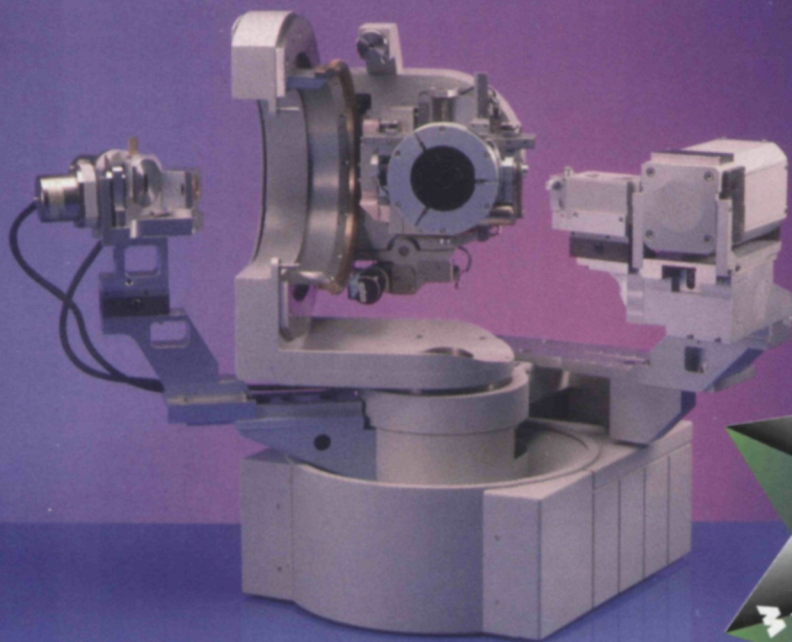
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