

# Letter to the Editor

## Comments on "Effect of Crystallinity of Condensation Polymers on Platelet Adhesion"

It has been observed<sup>1</sup> that the adhesion behavior of platelets is influenced by the number of methylene groups in the repeating units of polyamides and polyesters. Platelet adhesion on the surface of polyamides and polyesters was found to be closely related to their crystallinities, and the number of adsorbed platelets decreased linearly with increasing relative crystallinity. However, these experiments were performed using fresh blood, which contains other components as well, including proteins.

It has been observed<sup>2</sup> that the protein adsorption is effected even by minor conformational variations and by varying weight per centum of soft segments in macromolecules. It is also observed<sup>3</sup> that various proteinated surfaces adhere to platelets differently as indicated in Table I. The experiments were run using suspended platelets in tyrode solution separated by centrifuging the human blood, as explained elsewhere.<sup>3</sup> The above observations suggest that varied crystallinities will effect the protein adsorption of different types with varied concentrations, which will effect the behavior of platelet adhesion. We feel, therefore, that one can draw a conclusion from the investigations presented<sup>1</sup> that the increased platelet adhesion from whole blood is probably due to increased adsorption of proteins like fibrinogen and  $\gamma$ -globulin etc. and is dependent upon the variations in surface energy parameters<sup>4</sup> with decreasing relative crystallinity.

TABLE I  
Platelet Adhesion to Various Protein-Adsorbed  
Polycarbonate Film<sup>3</sup>

| Surfaces                                | Mean platelets <sup>a</sup> |
|---|-----------------------------|
| I. Polycarbonate film exposed to buffer | 7.0 $\pm$ 2.0               |
| II. Albumin-adsorbed film               | 3.0 $\pm$ 1.0               |
| III. AntiHageman factor—adsorbed film   | 4.0 $\pm$ 2.0               |
| IV: $\gamma$ -globulin—adsorbed film    | 14.0 $\pm$ 4.0              |
| V. Fibrinogen-adsorbed film             | 18.0 $\pm$ 4.5              |

<sup>a</sup> Values expressed as mean  $\pm$  standard deviation from 12 readings of two different sets of experiments.

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Received May 28, 1982  
Accepted August 3, 1982

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