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Dynamic wetting of human blood and plasma on various surfaces

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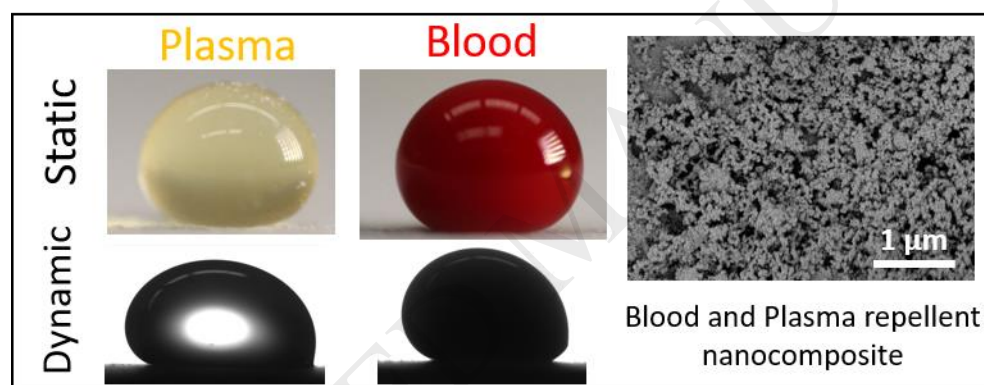
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Graphical abstract



Highlights

- Static and dynamic wetting of blood and plasma on various surfaces is reported.
- Hysteresis and receding angles are more strongly affected from blood composition.
- A spray-based superhydrophobic nanocomposite was found to repel blood and plasma.

ABSTRACT

Surface fouling from coagulated blood is a major challenge in medical industry. However, the wetting physics and dynamics of blood on surfaces are not well understood nor are the quantitative influences due to surface and fluid properties. The present study investigates the effect of surface wetting and dynamics resulting for human blood and plasma, namely hemophobicity, on surfaces with different wettability. To examine effects of fluid properties, the wetting characteristics for liquids with Ohnesorge number similar to that of blood and plasma are also considered. Among the tested surfaces, a

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