Blood on Superhydrophobic Surfaces: Polymers in Liquids interacting with Polymers on Complex Topology Solids

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The dynamic wettability of blood and plasma were investigated on various surfaces including aluminum, a poly-stree (used for Petri dishes), a commercial superhydrophobic surface (Neverwet) and a new super-hydrophobic surface based on flouro-polymer nano-particle combination which allows self-assembly to create micro- and nano-structures. This is the first study to quantitatively examine dynamic wetting properties of blood on such surfaces. The results show that the blood and plasma behave much differently and that even with the presence of a non-coagulant, the blood interface with the solid surface is not well described by conventional capillary behavior.