Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.


# Supporting Information

## Nanotopography as a trigger for the microscale, autogenous and passive lysis of erythrocytes

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**Adhesion of RBCs on Model Surfaces as a function of Time**

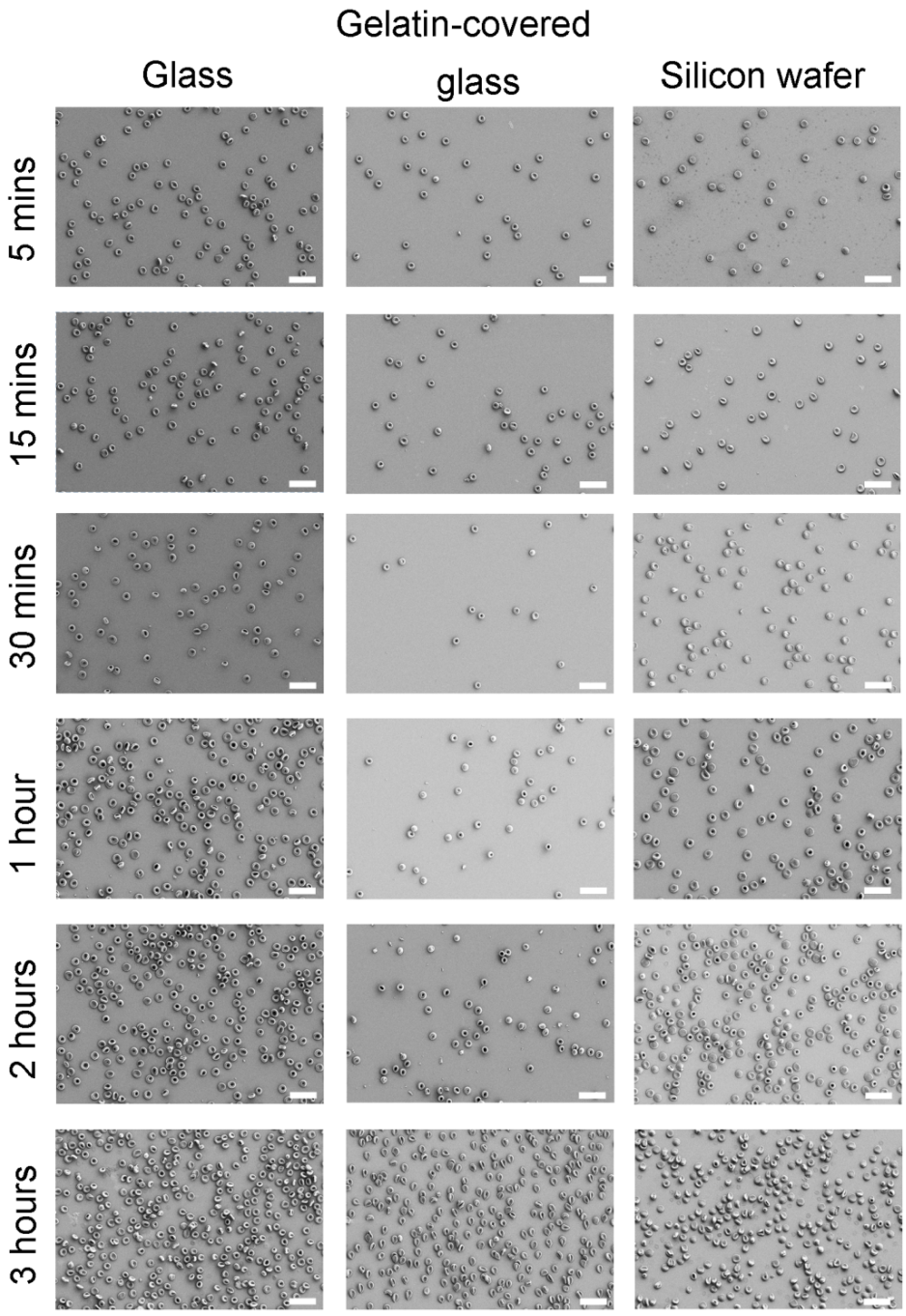


**Figure S1.** Typical SEM images of dynamic interactions of erythrocytes with three control surfaces: glass, gelatin covered glass and silicon wafer, over 3 hours. Images were selected as being representative from 10 different areas of 3 independent experiments. Scale bar is 20 μm.

## Attachment Density on Control Surfaces

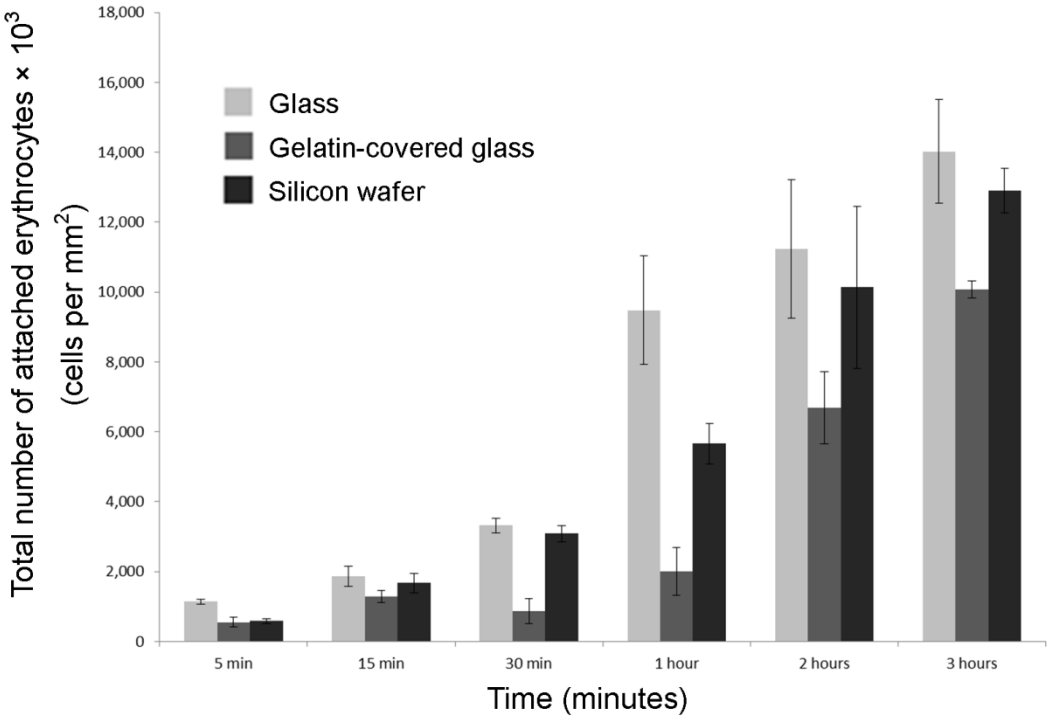


**Figure S2.** Quantification of the dynamic attachment of erythrocytes on control surfaces.

## Confocal Scanning Images of RBCs on Control Surfaces

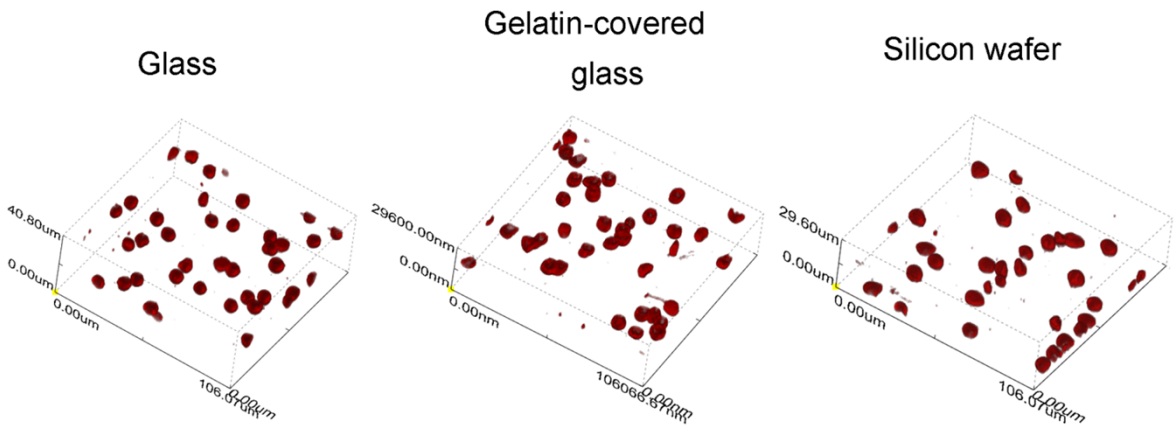


**Figure S3.** CLSM images of erythrocyte attachment on the three control surfaces. Cells were stained with 1,1'-dioctadecyl-3,3,3',3'-tetramethylindocarbocyanine perchlorate and imaged after 30 minutes of incubation on the surfaces.

## Real Time Visualisations of RBC Attachment on bSi Surfaces

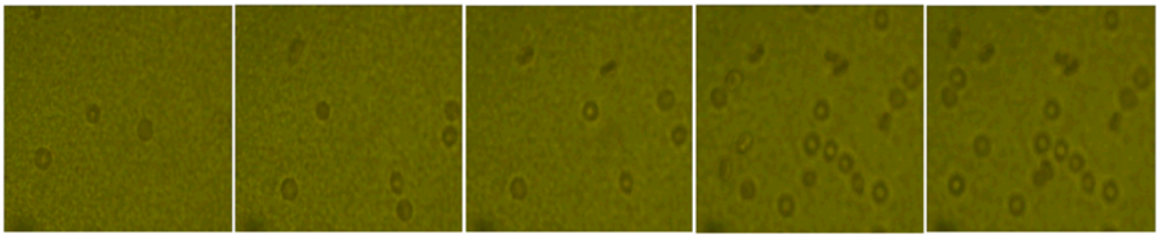

**Figure S4.** Real time interactions (video) of erythrocyte attachment to bSi. Optical images showed cells appearing in the frames when in contact with the bSi surface, and disappearing after rupture when they moved out of camera focus.

**Video V1.** Optical video microscopy of interactions above over 20 min illustrates RBC adhesion, rupture and disappearance from field of view.