

Cell Adhesion Properties on Chemically Micropatterned Boron-Doped Diamond Surfaces

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Supporting Information

XPS spectra of the functionalized BDD surfaces

For more details on the spectra analysis, see the references ^{1,2} from our previous works.

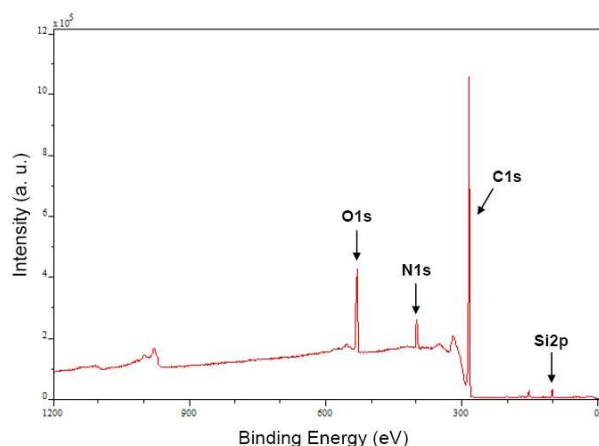


Figure S1. XPS survey of plasma aminated BDD.

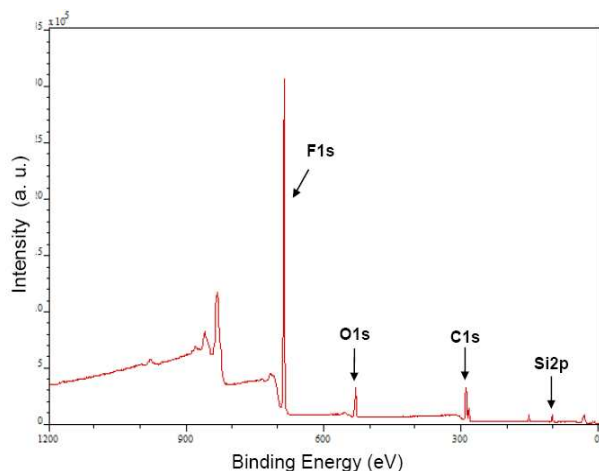


Figure S2. XPS survey of oxidized BDD after chemical reaction with perfluorotrichlorosilanes.

Time-lapse cell imaging

We assessed the cell proliferation kinetics of fluorescent U2OS cells on chemically-modified BDD substrates using a time-lapse observation. Cells were incubated at 37°C and 5% CO₂. Phase contrast images and fluorescent images were acquired using a YFP HYQ filter set (Nikon) every hour for 40 h. Image analysis was done using NIS-Elements AR software (Nikon).

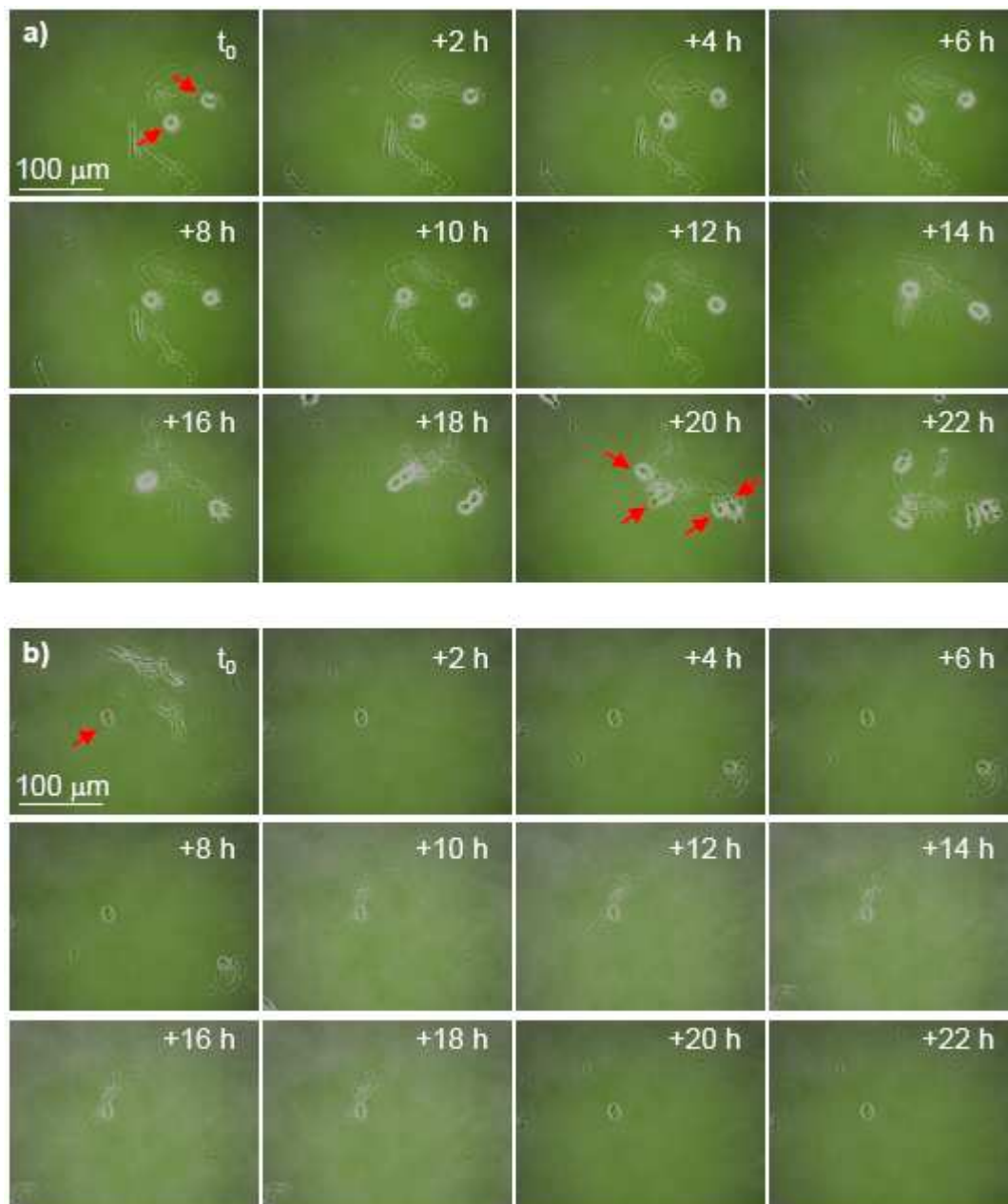


Figure S3. Time-lapse cell imaging of U2OS cells on a) a culture dish and b) a $-(CH_2)_{17}-CH_3$ terminated BDD. Cells are indicated with a red arrow.

Incubation of various densities of L929 cells on patterned BDD surfaces

L929 cells were plated at the indicated density on the modified surfaces bearing the 400 μm^2 patterns. Surfaces were subsequently observed by fluorescence microscopy every 2 hours until cells grew to ~ 80% confluence.

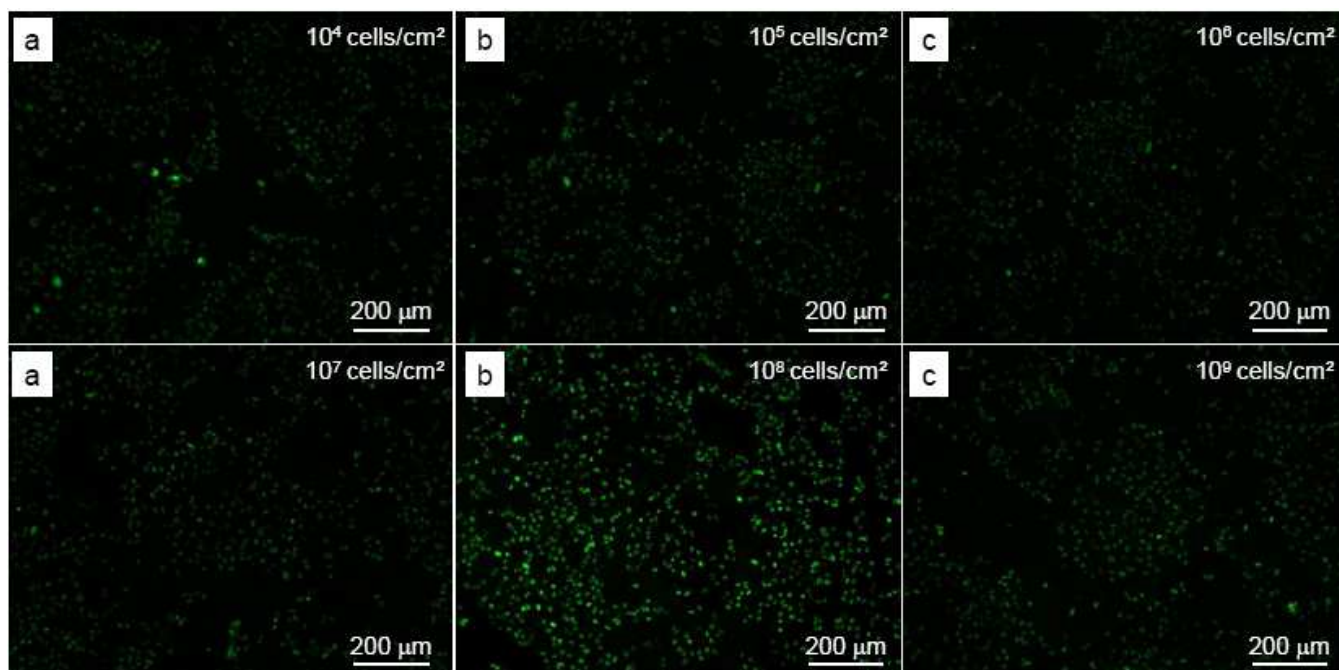


Figure S4. Impact of the L929 cell density on the colonization of 400 μm^2 -patterned BDD surfaces.

References.

- (1) Boukherroub, R.; Wallart, X.; Szunerits, S.; Marcus, B.; Bouvier, P.; Mermoux, M. *Electrochem. Commun.* **2005**, 7, 937-940.
- (2) Szunerits, S.; Jama, C.; Coffinier, Y.; Marcus, B.; Delabouglise, D.; Boukherroub, R. *Electrochem. Commun.* **2006**, 8, 1185-1190.