

Supplementary Materials

Nitrogen-Doped Diamond-Like Carbon Buffer Layer Enhances the Mechanical and Tribological Properties of Diamond-Like Carbon Films Deposited on Nitrile Rubber Substrate

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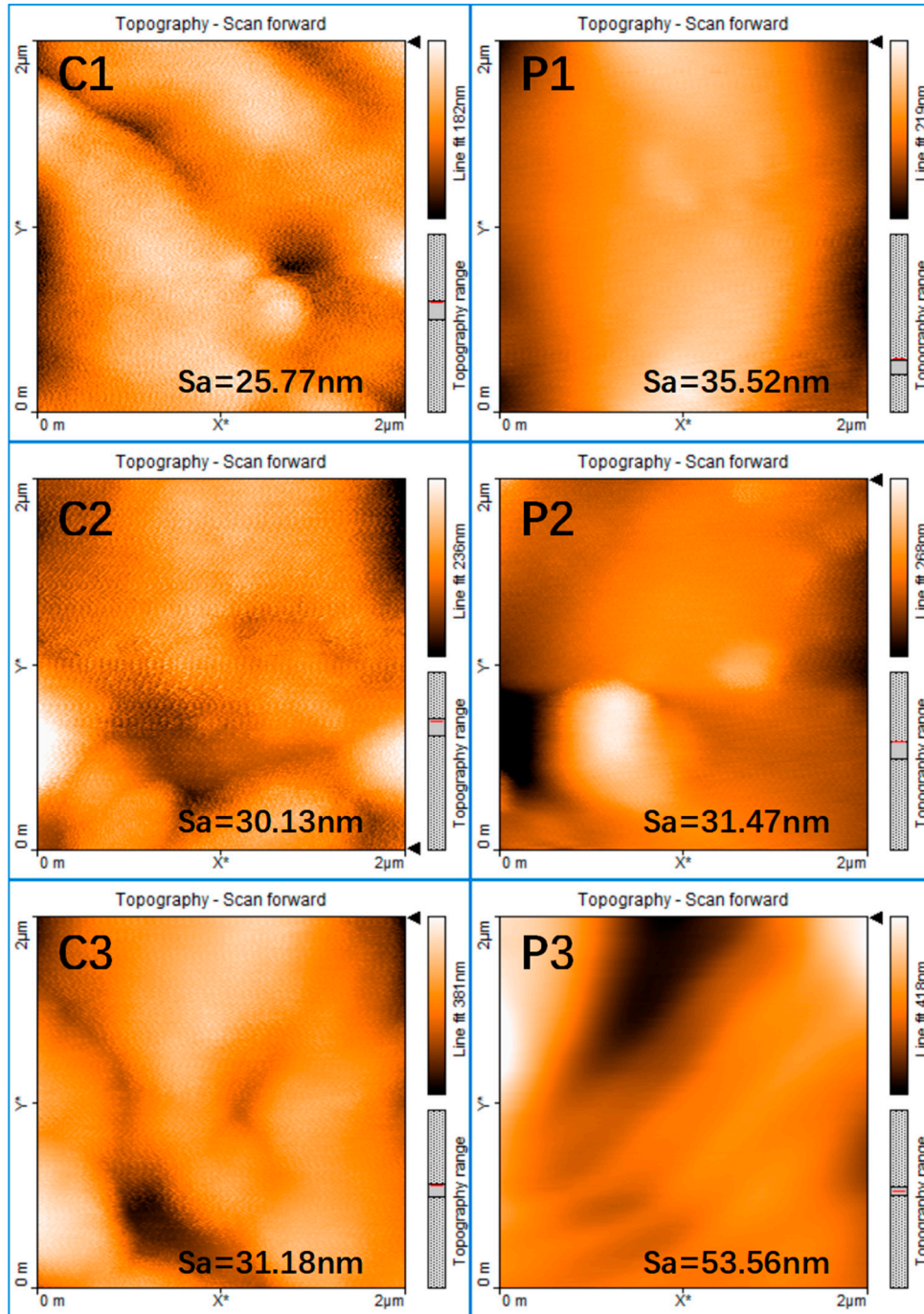


Figure S1: AFM image of the final DLC film with that of both the substrate and N-DLC buffer layer.

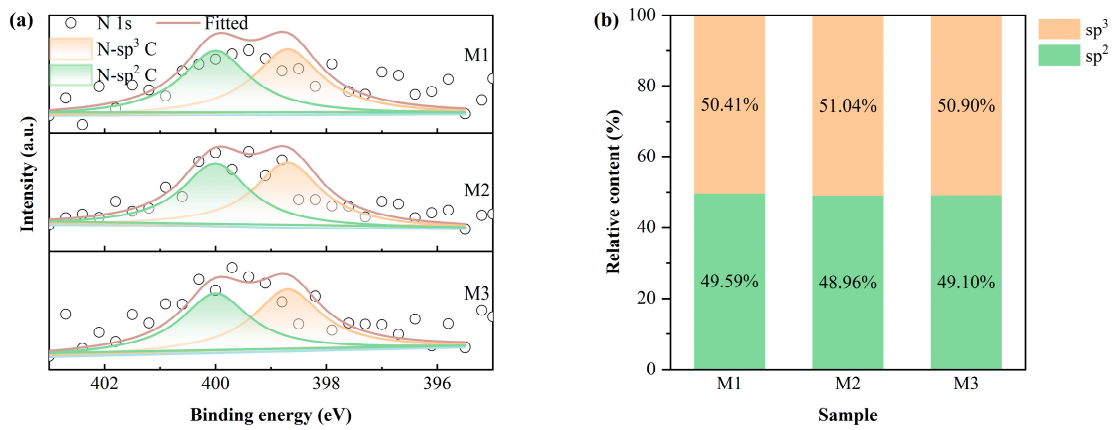


Figure S2: (a) XPS N1s spectra of interlayer film deposited on NBR at different bias voltages; (b) corresponding sp² and sp³ percentages of sp²N-C/sp³N-C

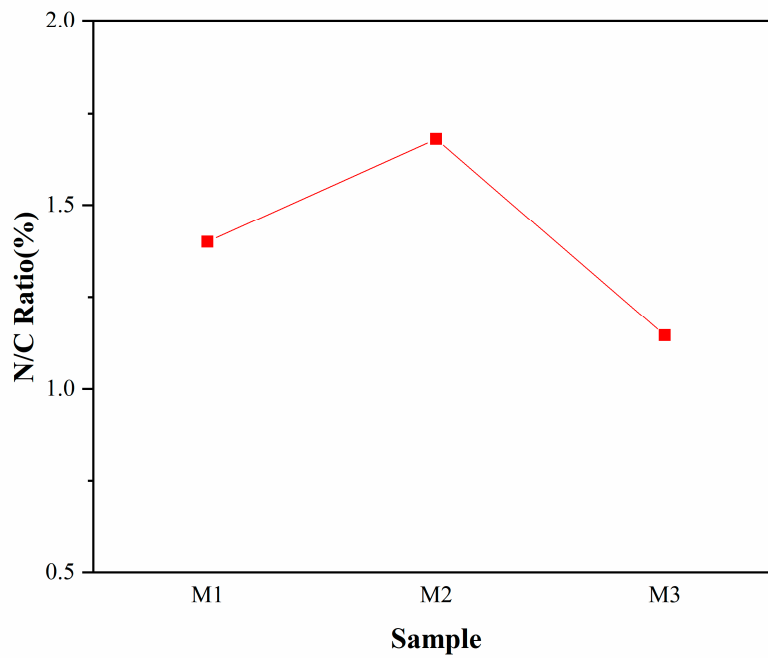


Figure S3: N/C percentage of interlayer films deposited on NBR under different bias voltages.

The N1s spectra of the interlayer films exhibit two characteristic peaks with binding energies of 398.7 ± 0.1 eV and 399.9 ± 0.2 eV, respectively, which are corresponding to sp³N-C and sp²N-C bond, as depicted in Figure S2. The N/C percentage of interlayer film deposited on NBR at different bias voltages is shown in Figure S3. It can be seen the N content is very low in the N-DLC interlayer.