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Controlling the Directional Motion of Water Droplet on Polymer by Titled Nanopillar Fabrication by rf PECVD¹ LAN PHAN, MYOUNG-WOON MOON, Korea institute of science and technology — In this work, we used plasma in radio frequency plasma enhance chemical vapor deposition (rf PECVD) to fabricate the slanted nanopillars with diameter around tens of nm on PET polymer, control the angle of tilted nanopillars on the substrate using Faraday cage. The top-view and cross-view of SEM show that the mushroom-liked nanopillar formation was created thank to the etching of O₂ gas plasma under the shading effect of metal cluster come from electrode and metallic cage under the bombardment of ion. The XRD result with high density of metallic oxide from stainless steel confirms the assumption. A directional motion of water droplet on nanopillar layer show the specific function of this nanostructure. The work could activate lots of potential applications by its high surface ratio and other specific purposes such as control the cell motion, directional water condense, and so.

¹Controlling the directional motion of water droplet on polymer by titled nanopillar fabrication by rf PECVD

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