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**Nano-meter structured three-phase contact line and its surface-guided alignment effect**<sup>1</sup> GANG LIU, JIANG ZHAO, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100080, China — We report our studies on the air-liquid-solid three-phase contact line on the periodically patterned surface made of polystyrene-b-polymethylmethacrylate (PS-b-PMMA). The difference of the contact angle of the liquid (water and polymer solution) on PS and PMMA generates the contact line with periodic structures of 40 nm length scale. Such a structured contact line was found to produce surface guided alignment effect for single DNA molecules by the molecular combing process and to generate surface-guided morphology of the polymer films through a combination of de-pinning and de-wetting process.

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