

Preliminary Validation of a Continuum Model for Dimple Patterns on Polyethylene Naphthalate via Ar Ion Beam Sputtering

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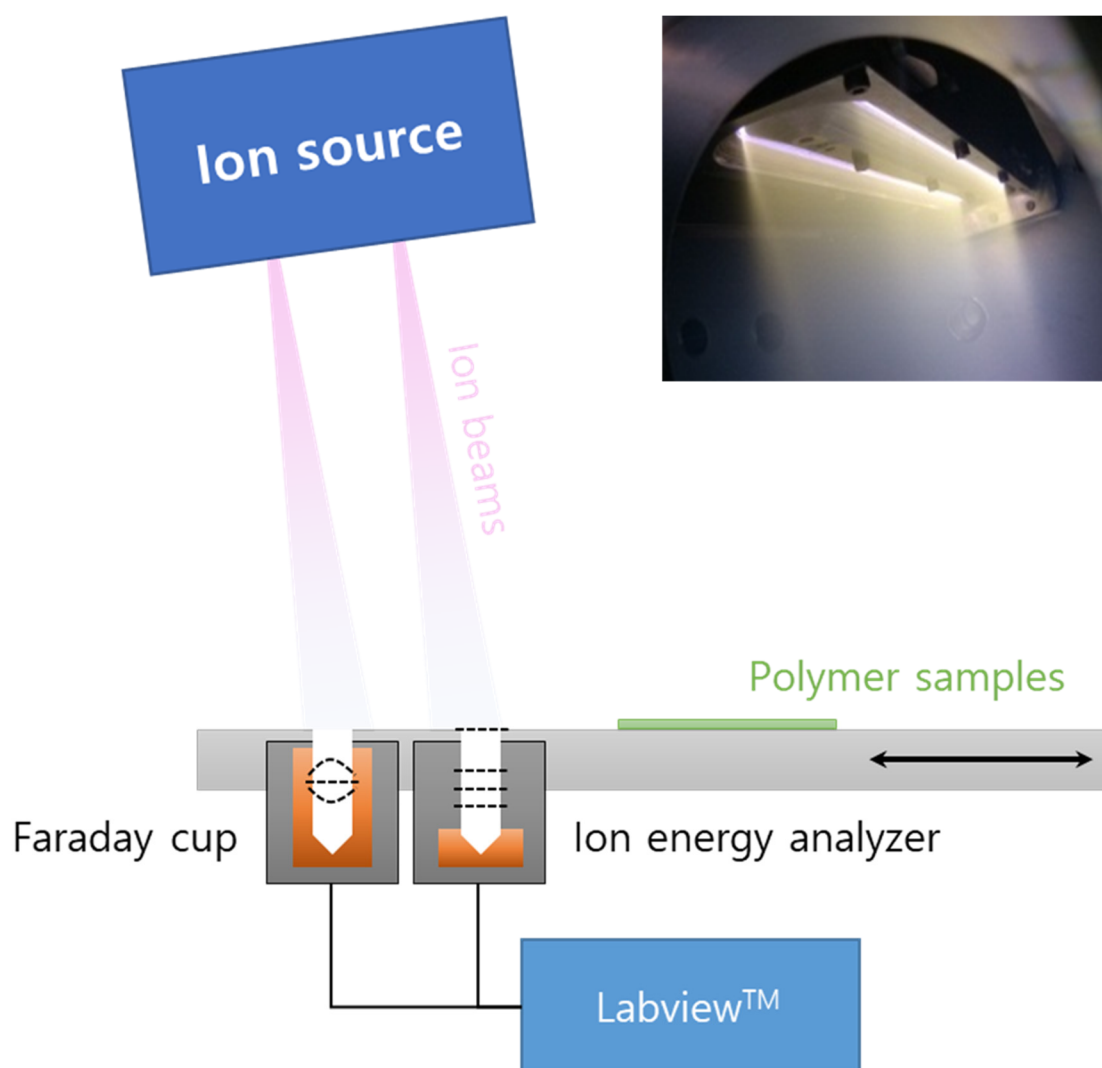


Figure S1. Linear ion beam irradiation on a moving substrate (speed: 10 mm/s). Ion current density and ion energy distribution function were measured by Faraday cup and retarding potential ion energy analyzer, respectively.

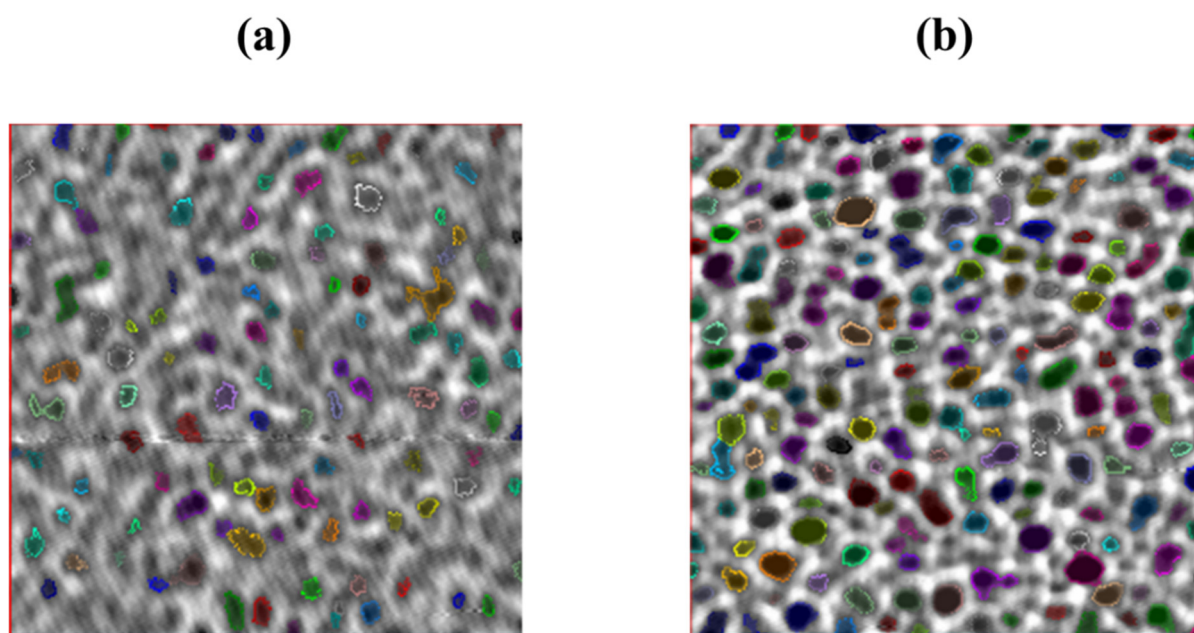


Figure S2. Diameter measurement of dimple structure using SPIP™ software, (a) ion dose: $2.4 \times 10^{15} \text{ cm}^{-2}$, (b) ion dose: $4.8 \times 10^{15} \text{ cm}^{-2}$.

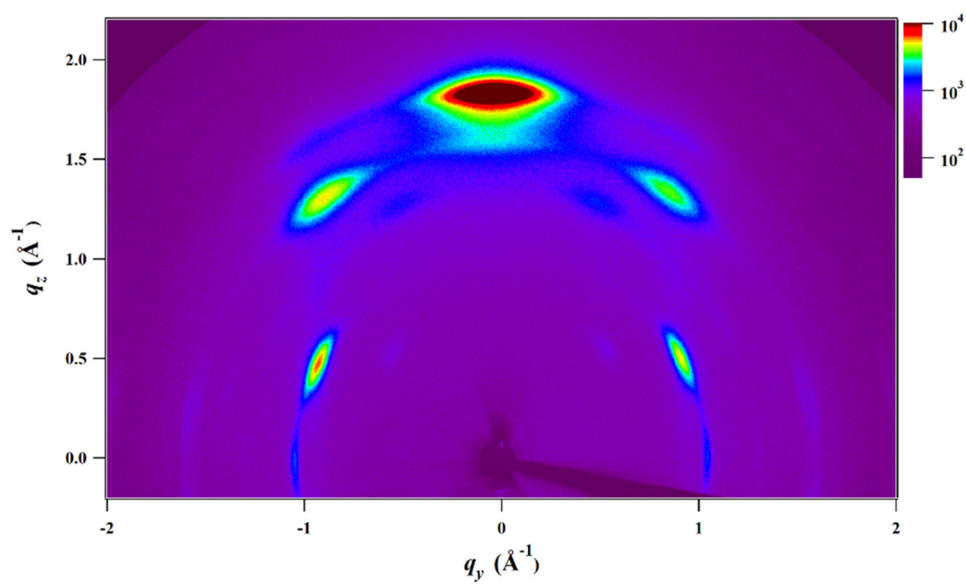
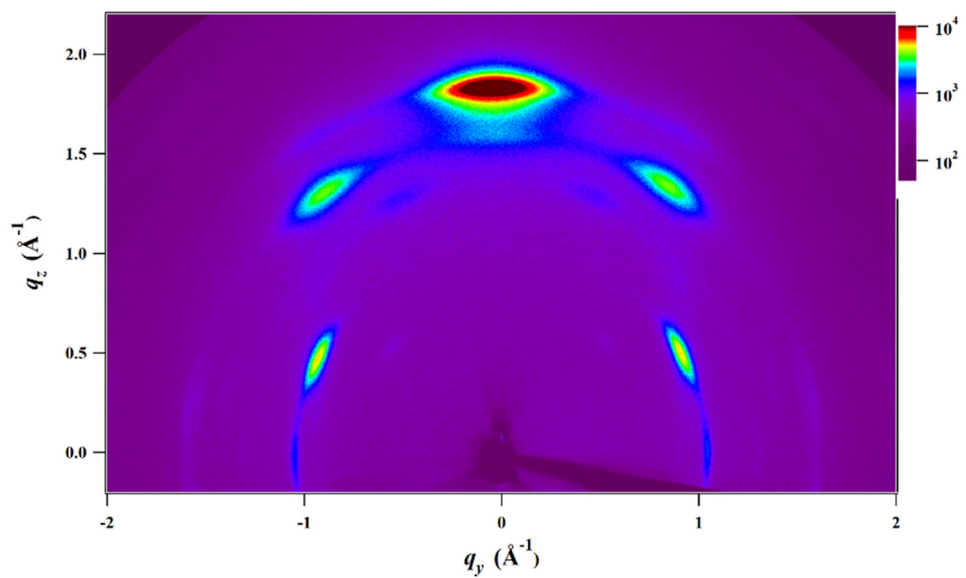
(a)**(b)**

Figure S3. Spectrum of wide angle X-ray scattering, (a) as-received PEN, (b) 600 eV Ar ion-beam irradiated PEN.