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Soft matter thin films under pressure: a morphological investigation under Grazing Incidence Neutron Scattering

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Using a custom-designed pressure cell, we tune hydrostatic pressure and combine Grazing Incidence Small Angle Neutron Scattering (GISANS) with specular and off-specular reflectivity under pressure (P) to probe morphologies of soft matter layers immersed in heavy water at $P = 1$ bar and $P = 800$ bar. Our results reveal nanostructural rearrangements upon P-increase and chemical composition dependencies for strongly segregated (hydrophilic) PDMAEMA / (hydrophobic) POFPPMA homopolymer brush mixtures vs. weakly segregated PDMAEMA/PMMA homopolymer brush mixtures anchored on Si substrate.

Please select the related topic from the list below

Thin films and interfaces in soft matter and materials science

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