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The effect of soxhlet extraction on morphology and mechanical properties of Poly(DVB)polyHIPE PORNSRI PAKEYANGKOON, MANIT NITHITANAKUL, The Petroleum and Petrochemical College Chulalongkorn University — PolyHIPE (Polymerized High Internal Phase Emulsion) is a novel porous polymer, which is microporous materials and produce by polymerization of the continuous phase of system. Poly(DVB)PolyHIPE using two different system of three-component surfactant (S20M and S80M) with various porogenic solvents including T, CB, CB/T and PE has been successfully prepared. The phase morphology, mechanical properties and surface area measurement were investigated. After polymerization of continuous phase, the porous materials with interconnected were obtained. The cell size and surface area were found to improve by using various solvent, this is due to the ability of porogenic solvent and mixture of surfactant which prevent the Ostwald ripening (coalescence) of system. Moreover, the surface area and mechanical properties of the resulting materials were found to be depended on the soxhlet time. It can be concluded that the suitable soxhlet time for extraction was 6-12 hours and at this condition, high surface area with highest mechanical properties was obtained as compare to others conditions.

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