Experimental report

16/09/2025

Proposal: 6-04-287 **Council:** 4/2021

Title: Incoherent neutron backscattering on Janus polynorbornenes

Research area: Soft condensed matter

This proposal is a resubmission of 6-04-284

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Samples: PTCNBu, C21_H38_O3_Si
PTCNPr, C18_H32_O3_Si
PTCNHx, C27_H50_O3_Si
PTCNOc, C33_H62_O3_Si

Instrument	Requested days	Allocated days	From	To
IN16B	5	4	03/09/2021	07/09/2021

Abstract:

The synthesis of Janus polytricyclononenes (PTCN) bearing rigid backbones and flexible n-alkyl substituents has been reported, where different length of the side chain has been considered. These polymers represent novel innovative materials with a variety of applications especially in gas separation processes. Recently the system was investigated by X-ray scattering which revealed a nanophase separation into alkyl-rich and backbone-rich domains where the size of the alkyl-rich domains increases with the length of the side chains. Here it suggested to carry out neutron backscattering on IN16B to investigate the dynamics. Elastic and inelastic fixed window scans as well as QENS investigations are suggested.

EXPERIMENTAL REPORT

EXPERIMENT N° 6-04-287 INSTRUMENT IN16B

DATES OF EXPERIMENT 03/09/2021-07/09/2021

TITLE

Incoherent neutron backscattering on Janus polynorbornenes

EXPERIMENTAL TEAM

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The result of the experiment have been published in

Confined Segmental Diffusion in Nanophase Separated Janus-Polynorbornenes as Investigated by Quasielastic Neutron Scattering

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