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4-Miktoarm Star Architecture Induces PVDF β-phase formation in $(PVDF)_2$-b-$(PEO)_2$ Miktoarm Star Copolymers

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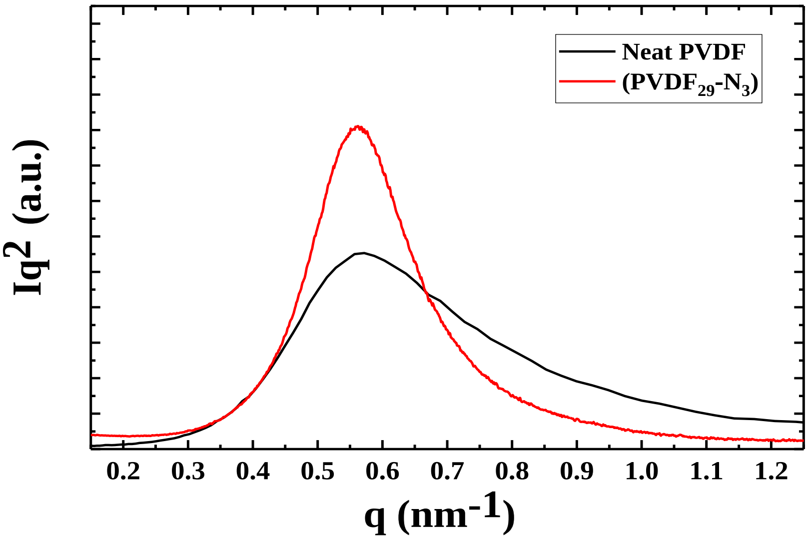

Figure S1. Lorentz-corrected SAXS patterns for neat PVDF and (PVDF$_{29}$-N$_3$)$_2$ sample.

The average lamellar thickness (lc) can be estimated by SAXS, as follows:

$$l_c = d^* x_v \tag{SI1}$$

In Eq. (SI1), x_v is the crystalline volume fraction, which can be calculated using the relevant densities. In our case, the densities are not available, so we made a rough approximation and employed the weight fraction directly (*i.e.*, X_c), obtained by DSC (see Table S1) according to:

$$l_c = d^* X_c \tag{SI2}$$

The final values obtained for l_c from the SAXS patterns by Eq. (SI2) are listed in Table S1 for the neat PVDF and (PVDF$_{29}$-N$_3$)$_2$ sample.

Table S1: Comparison between DSC parameters related to the enthalpy (ΔH_m), crystallinity (X_c), and the SAXS parameters related to the long period ($d*$) values and average lamellar thicknesses (lc) obtained for the studied PVDF samples.

	DSC		**SAXS**	
	ΔH_m (J/g)	X_c (%)	$d*$ (nm)	l (nm)
Neat PVDF	42.5	39.9	11.2	4.5
$(PVDF_{29}\text{-}N_3)_2$	56.8	53.3	11.2	6.0

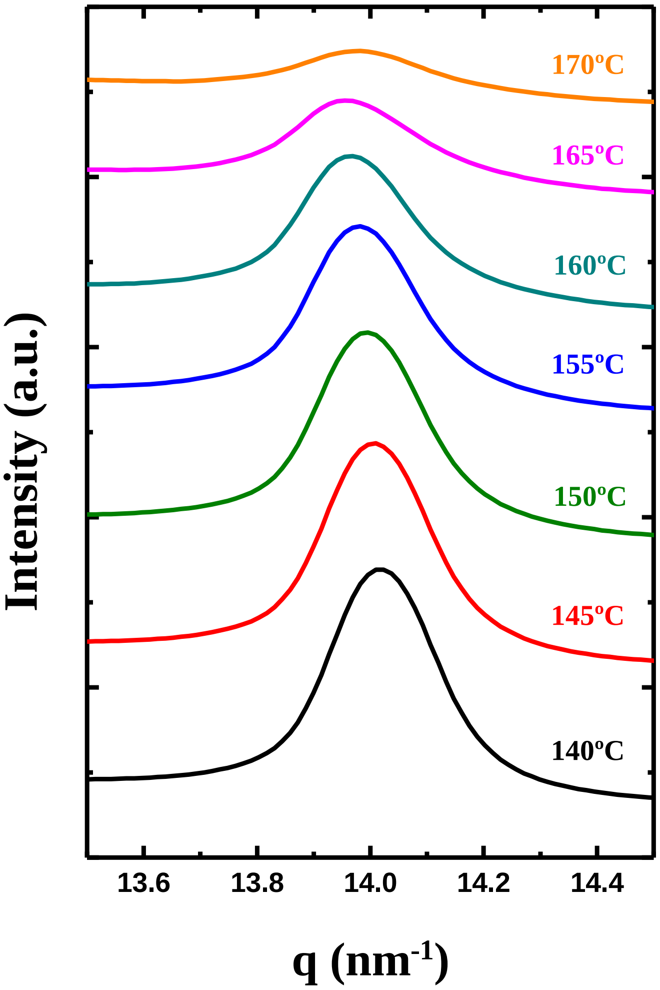

Figure S2. Evolution of the peak at 14.1 nm^{-1}, between 140-170ºC, during the heating in WAXS diffraction of the $(PVDF_{29}\text{-}N_3)_2$ when the crystallization rate is 20ºC/min.

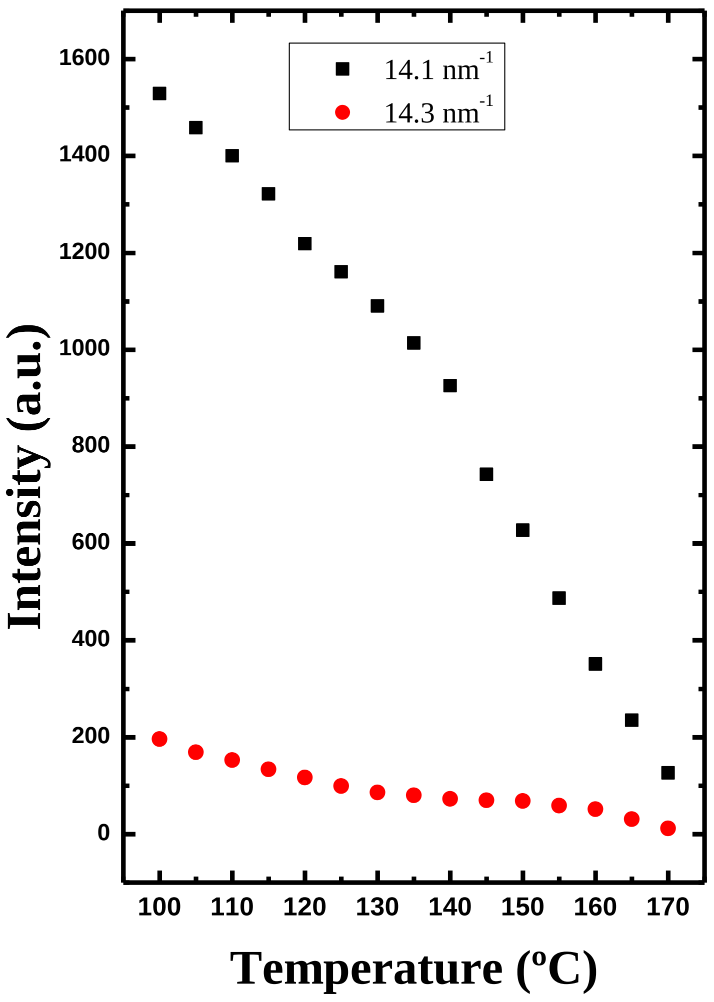

Figure S3. Evolution of the intensity of the peak at 14.1 nm^{-1} and the tail of this peak at 14.3 nm^{-1} during the heating in the WAXS analysis of the $(PVDF_{29}\text{-}N_3)_2$ when the sample is cooled down at 20ºC/min.