

Supplementary Information

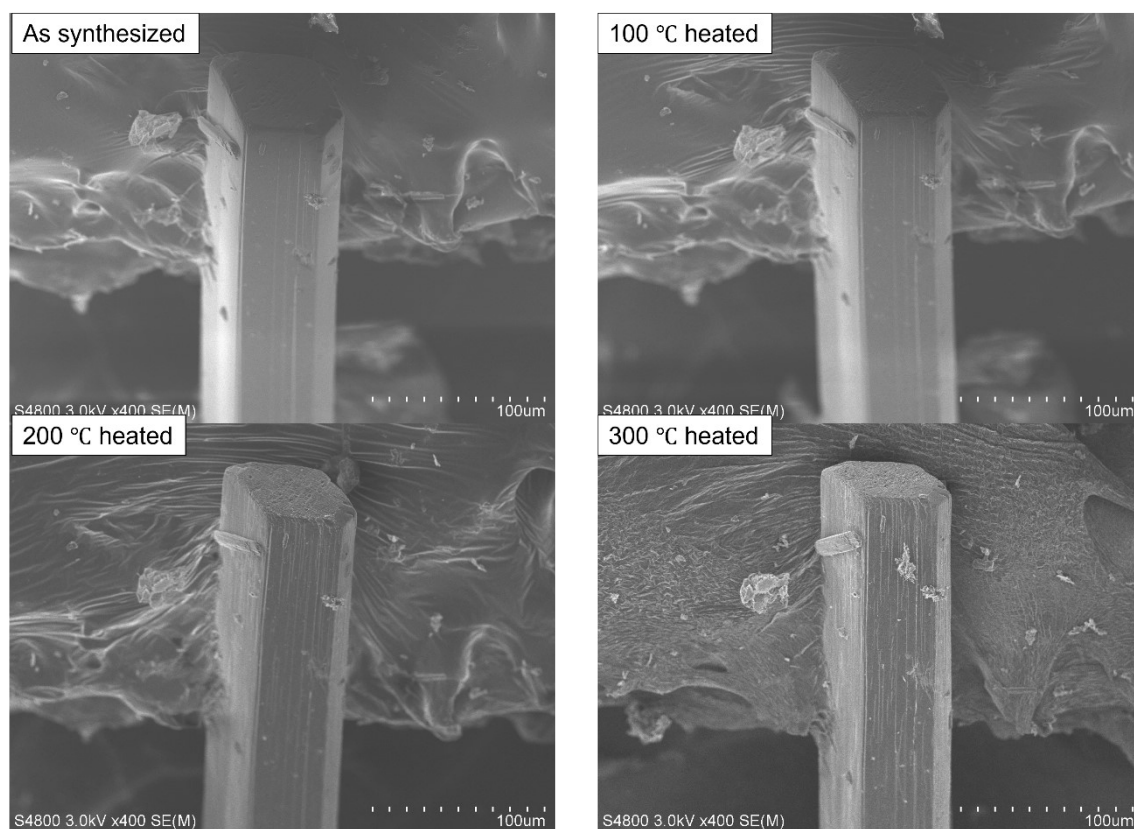


Fig. S1 Crystal shape changes of Nq by heating treatments.

Table S1. Intensity comparison of reflections, 1 0 1, 1 0 3, 0 0 4, 2 0 0, 0 2 1, 3 0 1, and 0 2 5 with their neighboring reflections in *d*-spacing. The listed *d*-spacings were calculated based on the lattice parameters in Table 1, *a* = 5.63, *b* = 5.3312, and *c* = 12.67 Å. Maximum peak heights were the averaged values of corresponding reflections and their equivalent reflections, and their standard deviations (σ) were also shown.

Reflection	Calculated d-spacing	Maximum peak height	Note
0 1 0	5.331	0	
1 0 1	5.149	1431(450)	
0 1 1	4.914	85(5)	This reflection is indistinguishable from that of Nq.
1 0 3	3.380	224(81)	
0 1 3	3.311	13(1)	
1 1 2	3.304	32(2)	
0 0 4	3.169	1012(154)	
1 1 3	2.855	70(6)	
2 0 0	2.817	1169(153)	
1 0 4	2.762	0	
2 0 1	2.750	0	
0 1 4	2.724	0	
0 2 0	2.666	133(1)	This reflection is indistinguishable from that of Nq.
0 2 1	2.609	3199(315)	This reflection is indistinguishable from that of Nq.
2 0 2	2.575	70(14)	
3 0 1	1.858	203(34)	
1 1 6	1.854	46(8)	This reflection is indistinguishable from that of Nq.
2 2 2	1.852	11(1)	
0 2 5	1.837	745(80)	
2 1 5	1.777	41(10)	This reflection is indistinguishable from that of Nq.

Table S2. Density of Nq and its dehydrated phases. The standard deviation of a measurement is also shown.

Heating temperature (°C)	Density (g/cm ³)
As synthesized	1.856(1)
50	1.855(2)
100	2.021(3)
150	2.007(3)
200	1.876(3)
250	1.813(3)
300	1.774(3)
350	1.814(2)
400	2.227(6)
450	2.98(2)
500	3.32(4)