

## Supporting information

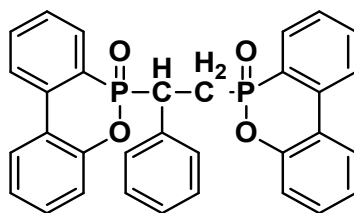


Fig. S1 Chemical structure of DiDOPO.

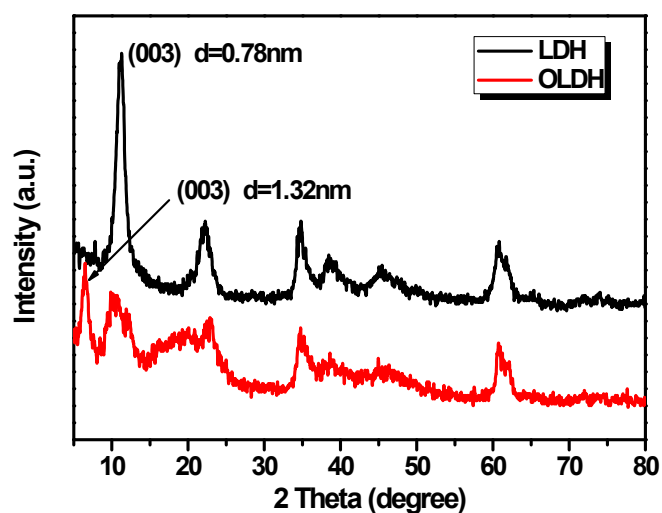


Fig.S2 XRD patterns of LDH and OLDH.

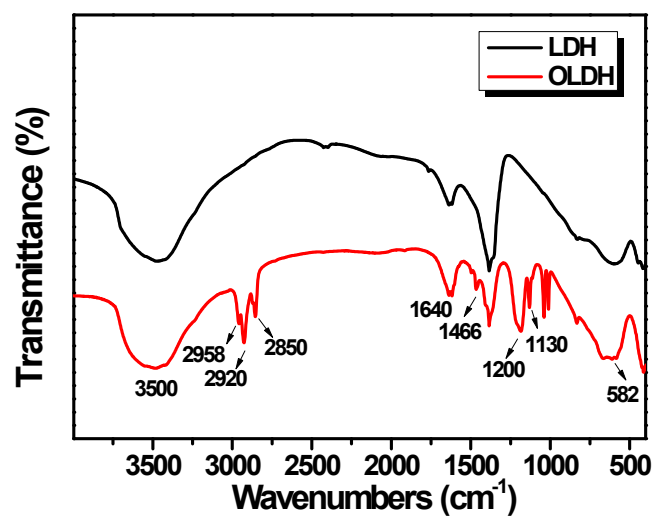


Fig.S3 FT-IR spectra of LDH and OLDH.

**Table S1** Mechanical properties of EP, EP/DiDOPO, EP/OLDH, and EP/DiDOPO/OLDH composites

composites	Tensile strength (MPa)	Flexural strength (MPa)	Izod notched impact strength (kJ·m <sup>-2</sup> )	Elongation at break (%)
EP	43.8 ± 1.5	70.6 ± 2.4	7.0 ± 0.2	8.7 ± 0.2
EP/DiDOPO1	48.3 ± 2.2	54.0 ± 1.3	5.3 ± 0.4	8.4 ± 0.1
EP/DiDOPO5	53.9 ± 2.6	39.4 ± 1.9	2.5 ± 0.1	9.4 ± 0.5
EP/DiDOPO10	34.6 ± 1.4	41.1 ± 1.4	6.3 ± 0.4	5.3 ± 0.4
EP/OLDH1	45.9 ± 1.1	42.9 ± 2.7	2.5 ± 0.2	6.0 ± 0.1
EP/OLDH5	47.2 ± 2.1	63.9 ± 1.7	2.3 ± 0.3	6.5 ± 0.2
EP/OLDH10	42.9 ± 1.3	49.8 ± 1.6	2.4 ± 0.5	6.2 ± 0.1
EP/DiDOPO0.5/OLDH0.5	37.9 ± 1.0	81.5 ± 2.1	3.4 ± 0.4	6.8 ± 0.4
EP/DiDOPO2.5/OLDH2.5	35.4 ± 1.2	82.6 ± 2.3	2.7 ± 0.3	6.5 ± 0.5
EP/DiDOPO5/OLDH5	61.5 ± 1.5	88.4 ± 1.1	2.3 ± 0.1	8.5 ± 0.2