Supplementary Information

Table S1. The average particle size of LDH and organo-LDHs

Samples	Average particle size (nm)[a]
Cl-LDH	180 (±38)
LA-LDH	202 (±37)
PA-LDH	223 (±58)
SA-LDH	244 (±30)
DS-LDH	175 (±33)
LP-LDH	200 (±50)

[a] The average particle size was evaluated according to the SEM analyses.

Table S2. The crystallinity of pristine PP and organo-LDH/PP nanocomposites.

Samples	Crystallinity (%)[a]
Pristine PP	48
1 phr LA-LDH/PP	45
3 phr LA-LDH/PP	43
6 phr LA-LDH/PP	45
9 phr LA-LDH/PP	47
12 phr LA-LDH/PP	45
3 phr PA-LDH/PP	44
3 phr SA-LDH/PP	47
3 phr DS-LDH/PP	48
3 phr LP-LDH/PP	50

[a] The crystallinity was evaluated by using crystallinity rate calculation of Fullprof program.

Table S3. Thermal stability of various PP nanocomposites depending on the type of nanofiller.

Samples	$\Delta T_{0.5}$ (K)	Organic modifier	Type of nanofiller	TGA condition	References
1 phr LA-LDH/PP	43	Laurate	Mg_2Al-LDH	Air, 10 ^oC/min	Present study
3 phr LA-LDH/PP	49	Laurate	Mg_2Al-LDH	Air, 10 ^oC/min	Present study
1 wt% MWNT/PP	30	-	MWNT	Air, 10 ^oC/min	R1
5 wt% OMMT/PP	48	Dimethyldistearyl ammonium	Montmorillonite	Air, 20 ^oC/min	R2

*MWNT : multi-wall carbon nanotube

References

R1 M. V. Jose, D. Dean, J. Tyner, G. Price and E. Nyairo, *J. Appl. Polym. Sci.* 2007, **103**, 3844-3850.

R2 H. Qin, S. Zhang, C. Zhao, M. Feng, M. Yang, Z. Shu and S. Yang, *Polym. Degrad. Stabil.* 2004, **85**, 807-813.

Fig. S1 Images of the organo-LDHs dispersed in xylene.

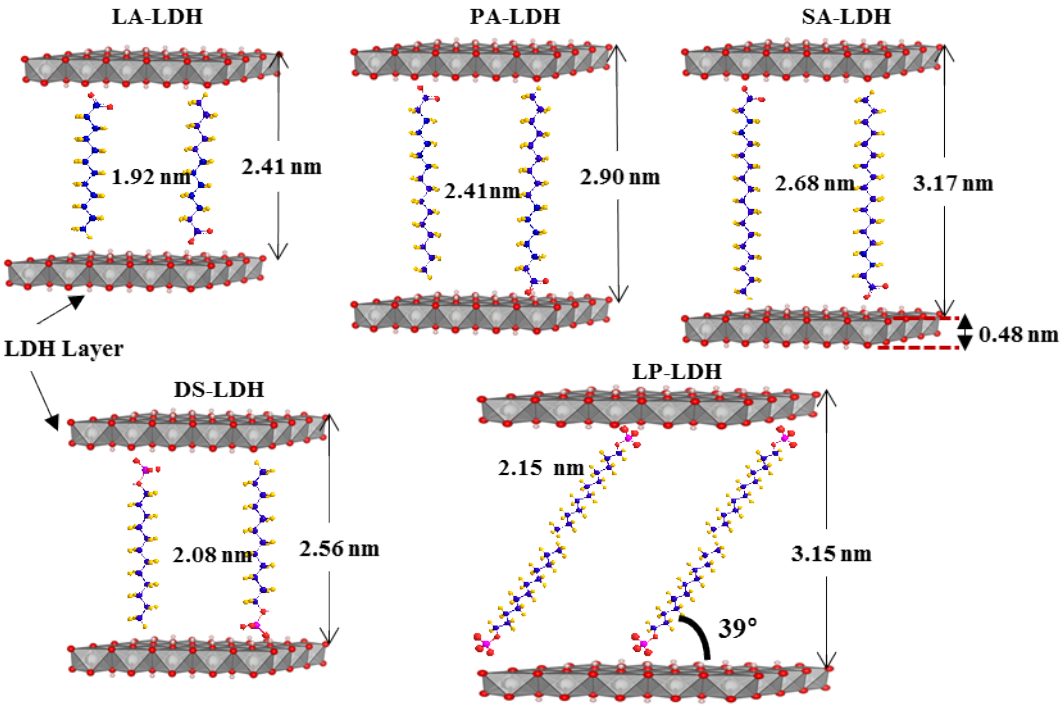

Fig. S2 Expected interlayer structure model of organo-LDHs, where the molecular size of intercalated organics was estimated along the long axis based on the Chemdraw (version 8.0) program.

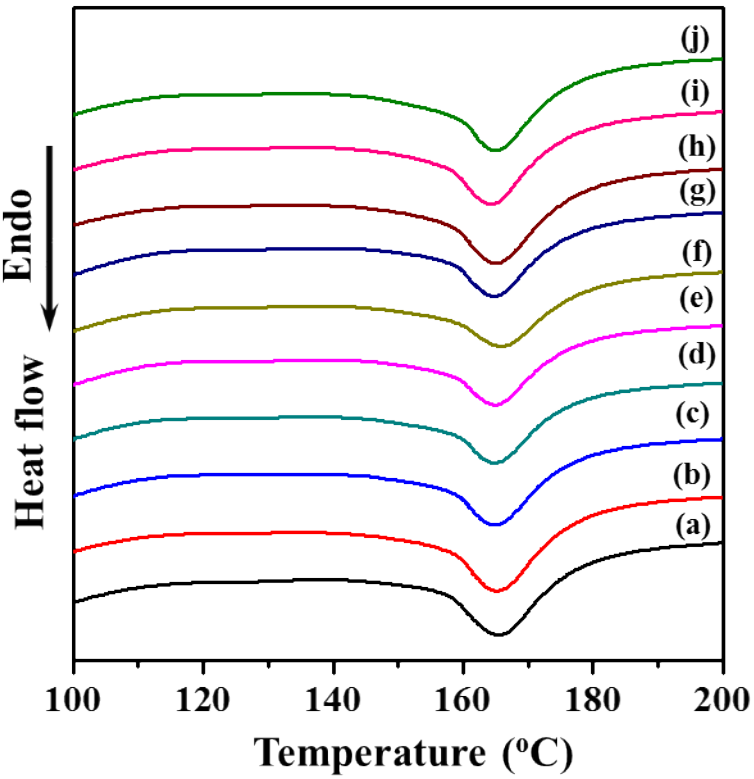

Fig. S3 DTA curves of (a) PP, (b) 1 phr LA-LDH/PP, (c) 3 phr LA-LDH/PP, (d) 6 phr LA-LDH/PP, (e) 9 phr LA-LDH/PP, (f) 12 phr LA-LDH/PP, (g) 3 phr PA-LDH/PP, (h) 3 phr SA-LDH/PP, (i) 3 phr DS-LDH/PP and (j) 3 phr LP-LDH/PP.

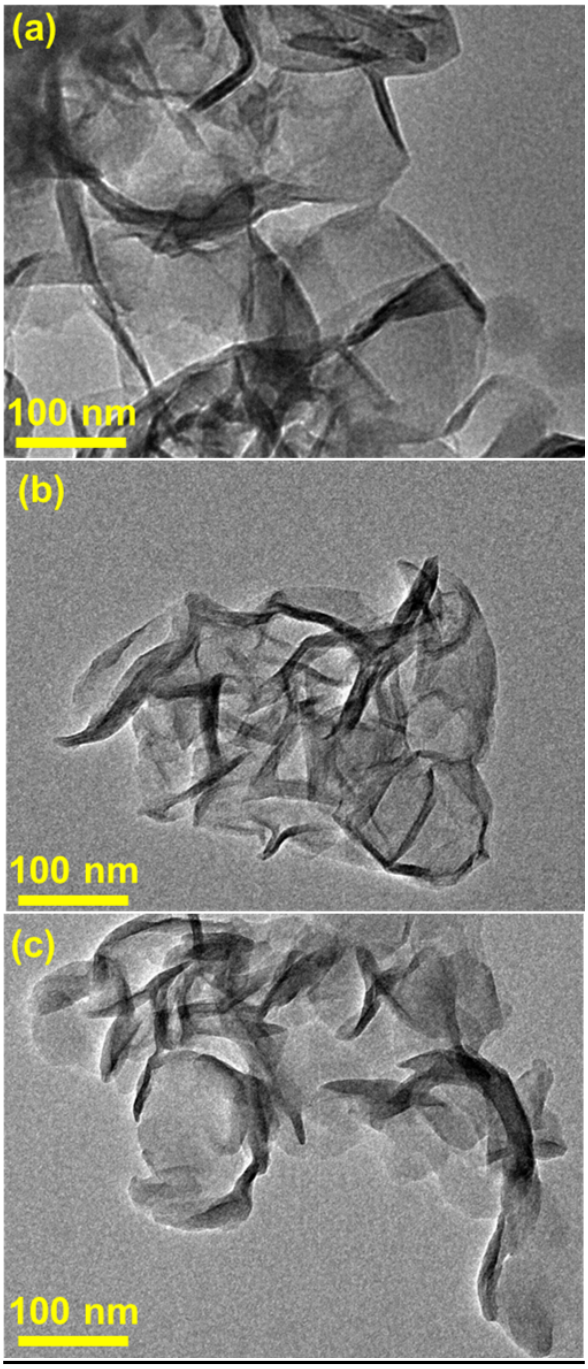

Fig. S4 TEM images of (a) LA-LDH, (b) PA-LDH and (c) DS-LDH.