

**Figure S1.** XPS spectral results of N.C. and all M group samples. Clear F1s signals are observed in all M group samples.



**Figure S2.** FT-IR results for all FC and M group samples. The same color indicates that the samples correspond between FC and M, respectively. The absorption bands appeared in the wavenumber region at approximately 3300–3500 cm-1 , whtch are observed in the FC group, while they disappeared or weakened in all M group samples.