Supporting Information

Smectite clay pillared with copper complexed polyhedral oligosilsesquioxane for adsorption of chloridazon and its metabolites

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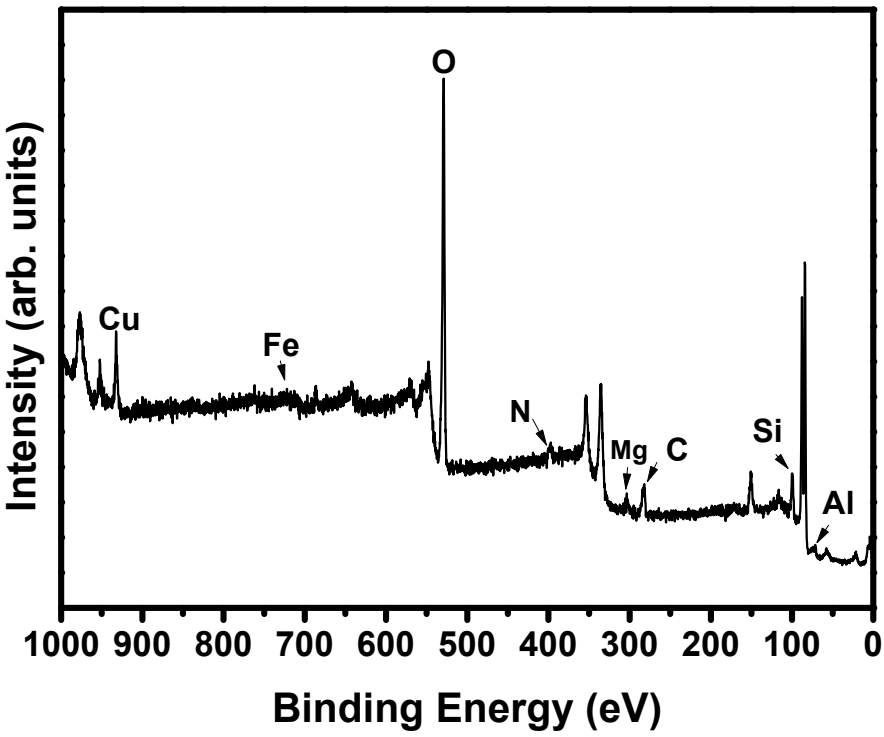

Figure S1 X-ray photoelectron spectroscopy: overview scan of Cu^{2+}@POSS_SWy-2.

The XPS overview scan of Cu^{2+}@POSS_SWy-2, presented in Figure S1, shows the spectral signature of all the expected elements: Mg, Fe and Al, which, together with Si and O, constitute the clay platelets, and Cu, C and N, which together with Si and O, form the intercalated Cu^{2+}@POSS complex.

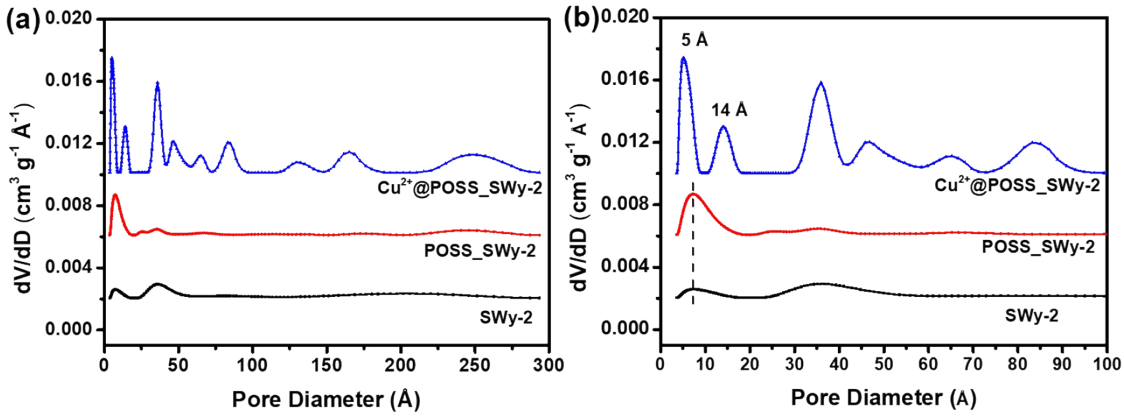

Figure S2 (a) NLDFT pore size distribution of SWy-2, POSS_SWy-2 and Cu^{2+}@POSS_SWy-2, (b) An enlarged view of NLDFT pore size distribution (0-10 nm) from (a).

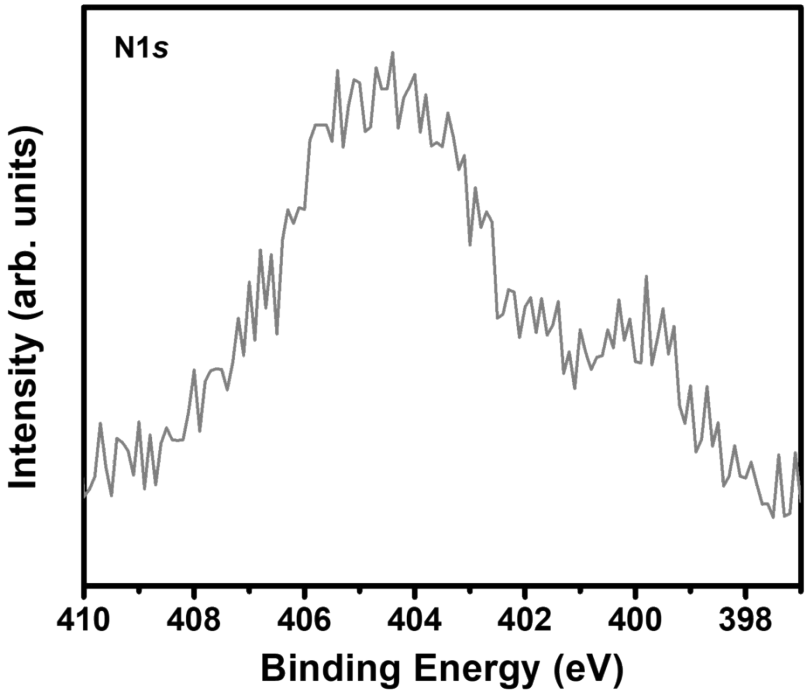

Figure S3 X-ray photoelectron spectrum of Chloridazon + Cu^{2+}@POSS_SWy-2: N1*s* core level region.

The N1*s* XPS of Cu^{2+}@POSS_SWy-2 + chloridazon is shown in the Fig. S3. After adsorption of chloridazon the line shape is much broader that that of the starting material (Fig. 1(c)), pointing to several new components at higher binding energy in line with the interaction between the N-containing groups in chloridazon and the adsorbent described in the main text. Since there are numerous different N-containing bonds in this system when both POSS and chloridazon are present, we refrain from attempting to fit this spectrum and conclude that additional information on the interaction between Cu^{2+} and N-containing groups cannot be extracted with certainty.