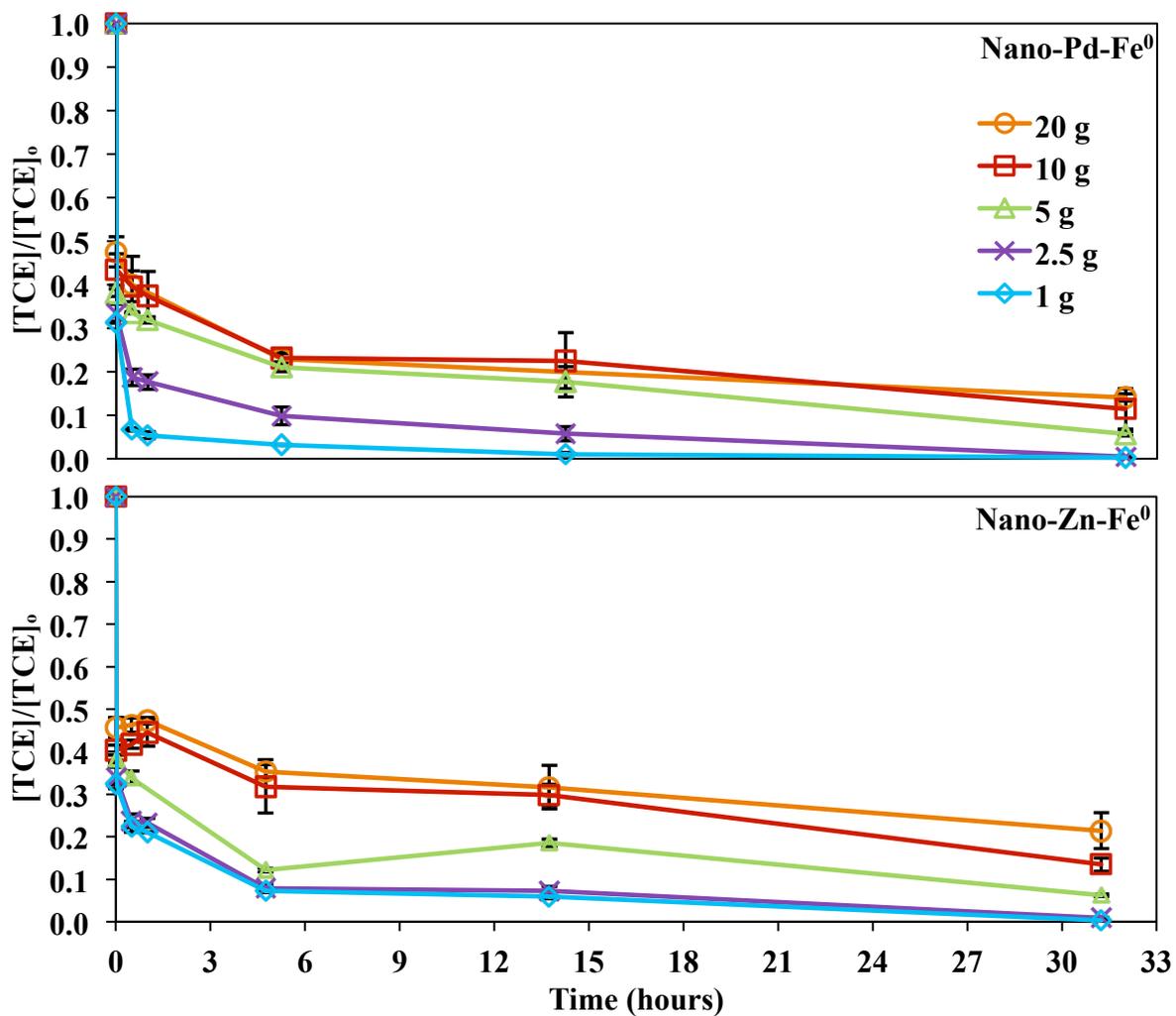
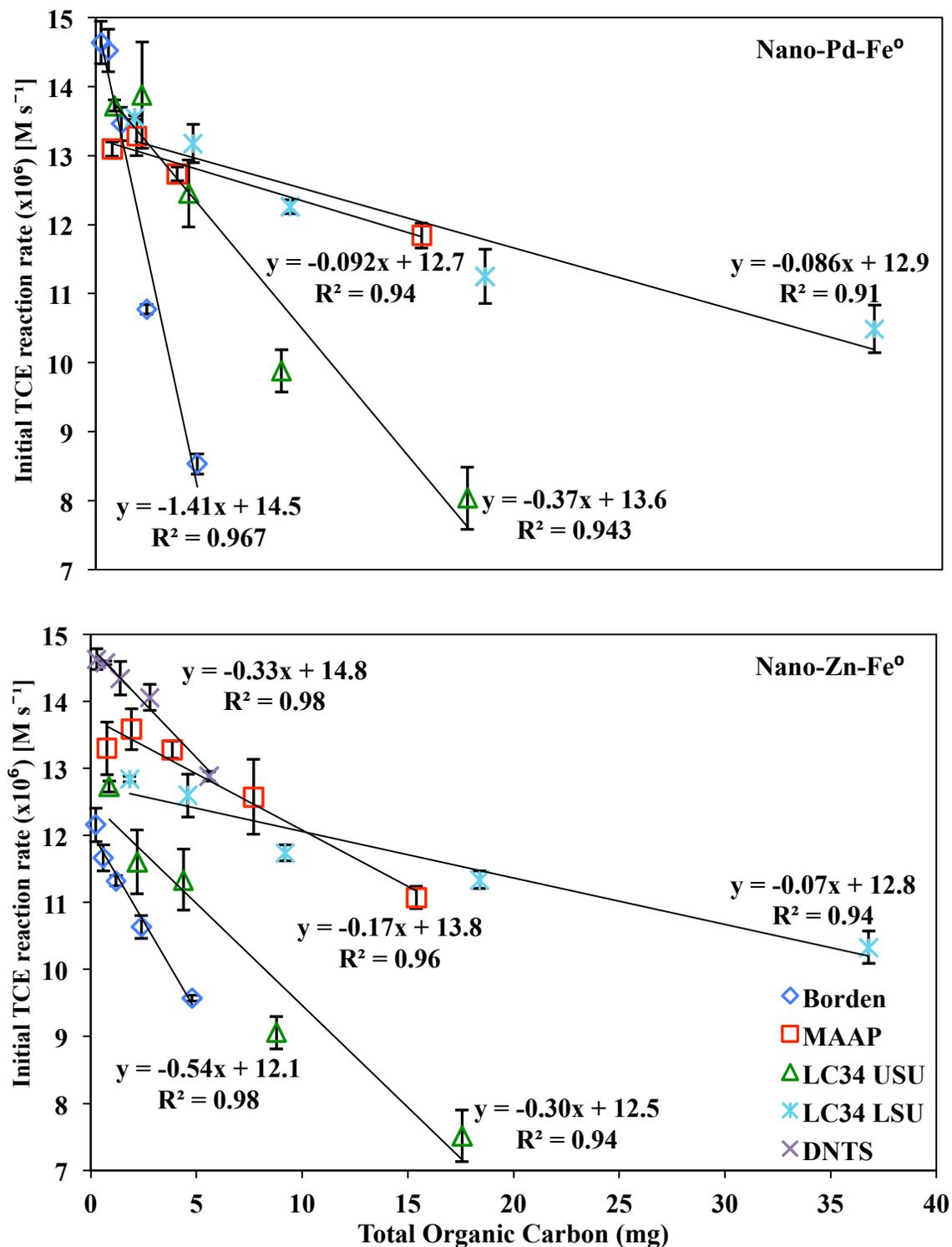


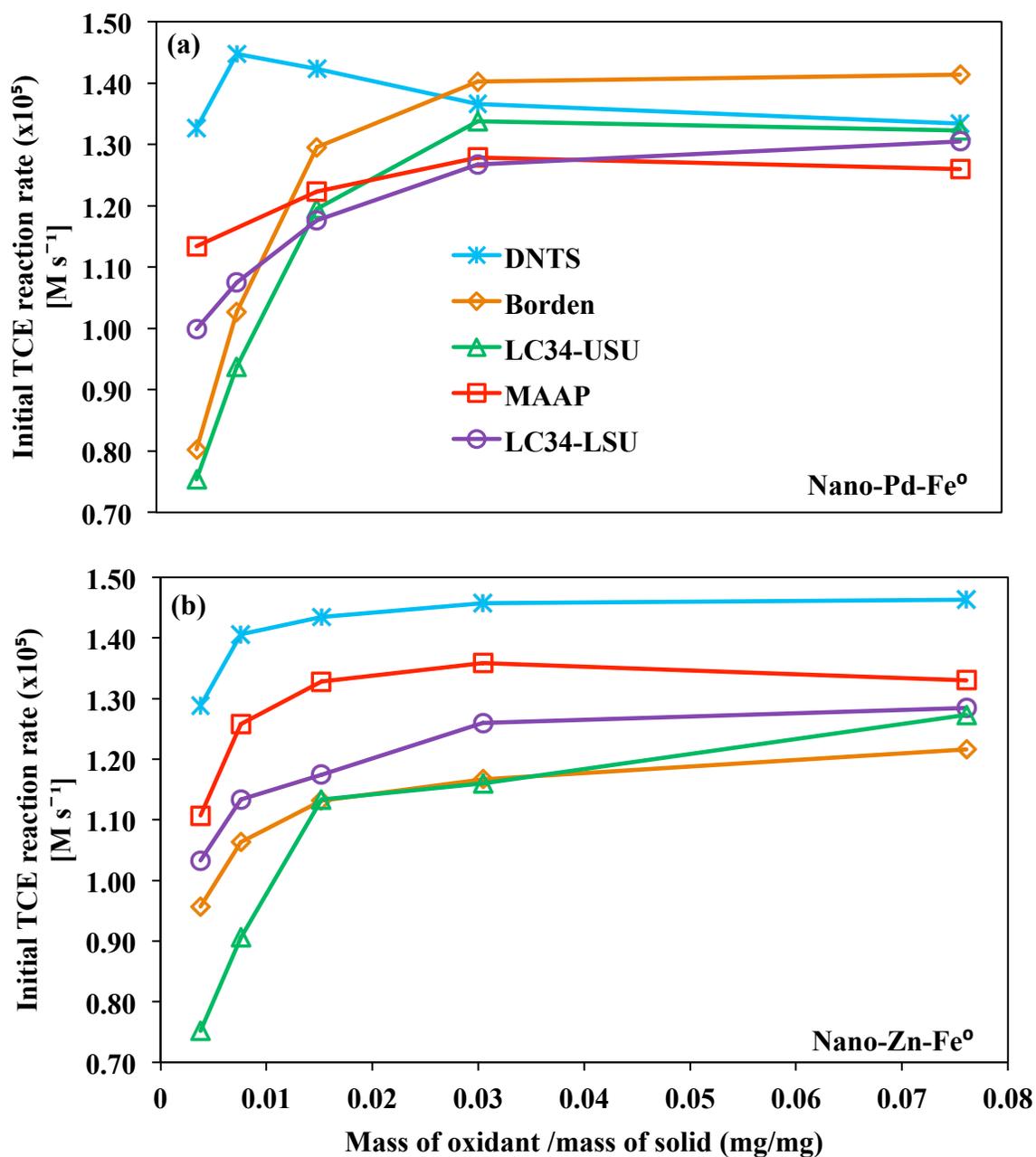
Electronic Supplementary Information (ESI):



**Figure S1.** TCE treatment in the presence of LC34-LSU by nano-Pd-Fe<sup>0</sup> and nano-Zn-Fe<sup>0</sup> (the error bars represent the standard deviation of triplicate reactors).



**Figure S2.** The initial TCE reaction rates plotted against the mass of OC of various aquifer materials for (a) nano-Pd-Fe<sup>0</sup> activated persulfate and (b) nano-Zn-Fe<sup>0</sup> activated persulfate (the error bars represent the standard deviation of triplicate reactors).



**Figure S3.** The initial TCE reaction rates plotted against the mass ratio (oxidant/solid) of various aquifer materials for (a) the nano-Pd-Fe<sup>0</sup> and (b) nano-Zn-Fe<sup>0</sup> activated persulfate systems.