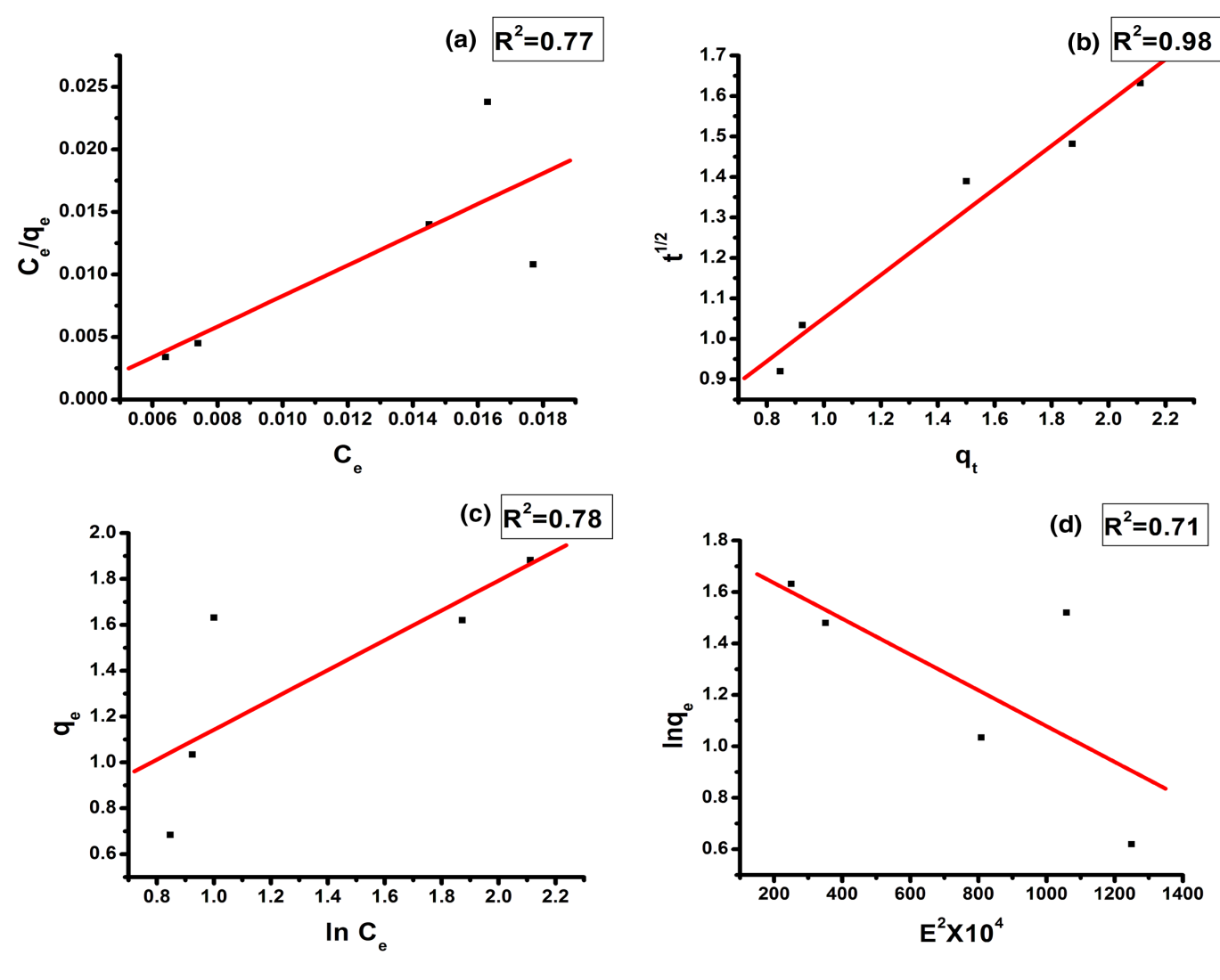
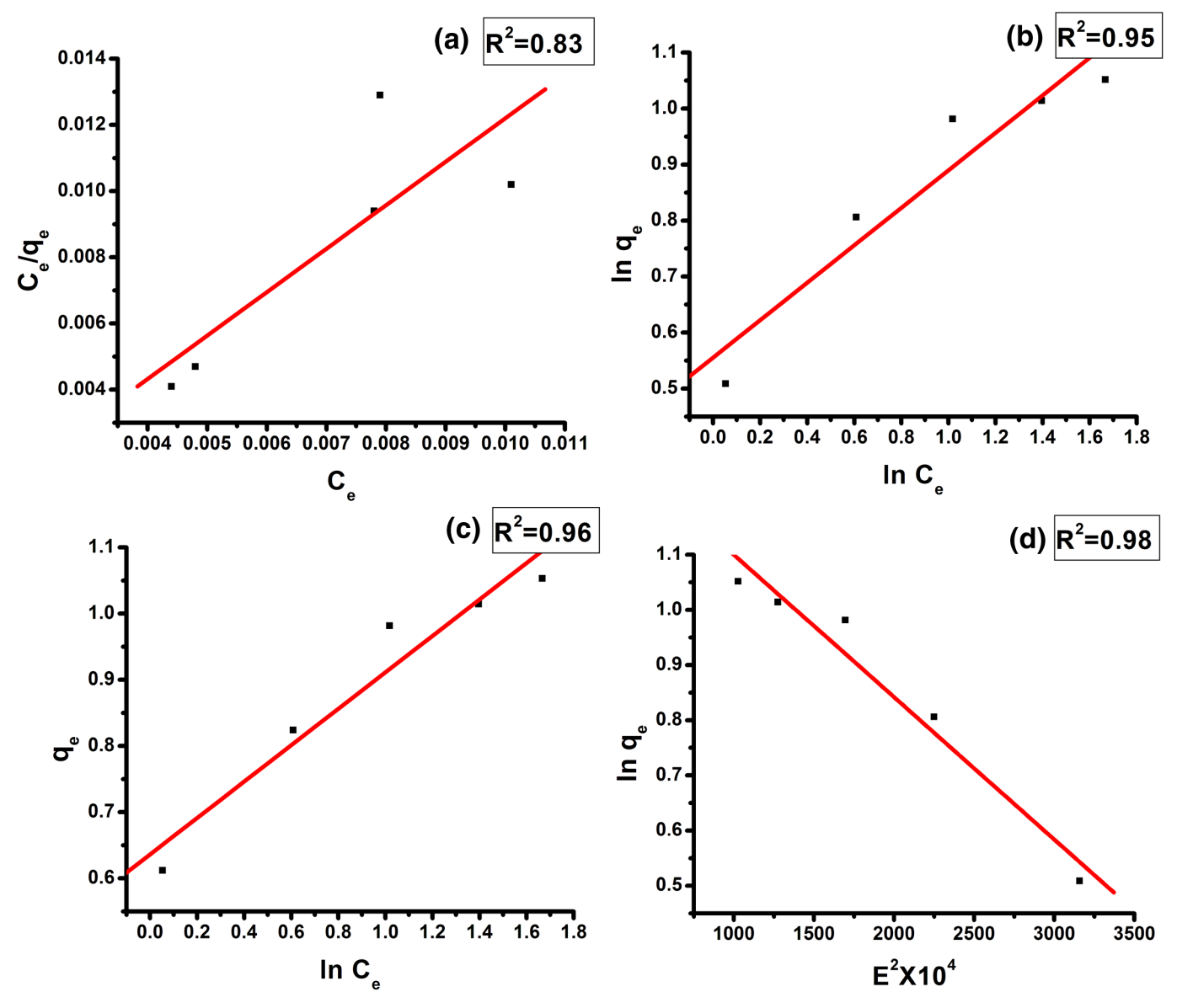
**Supplementary Materials**

**Fig**

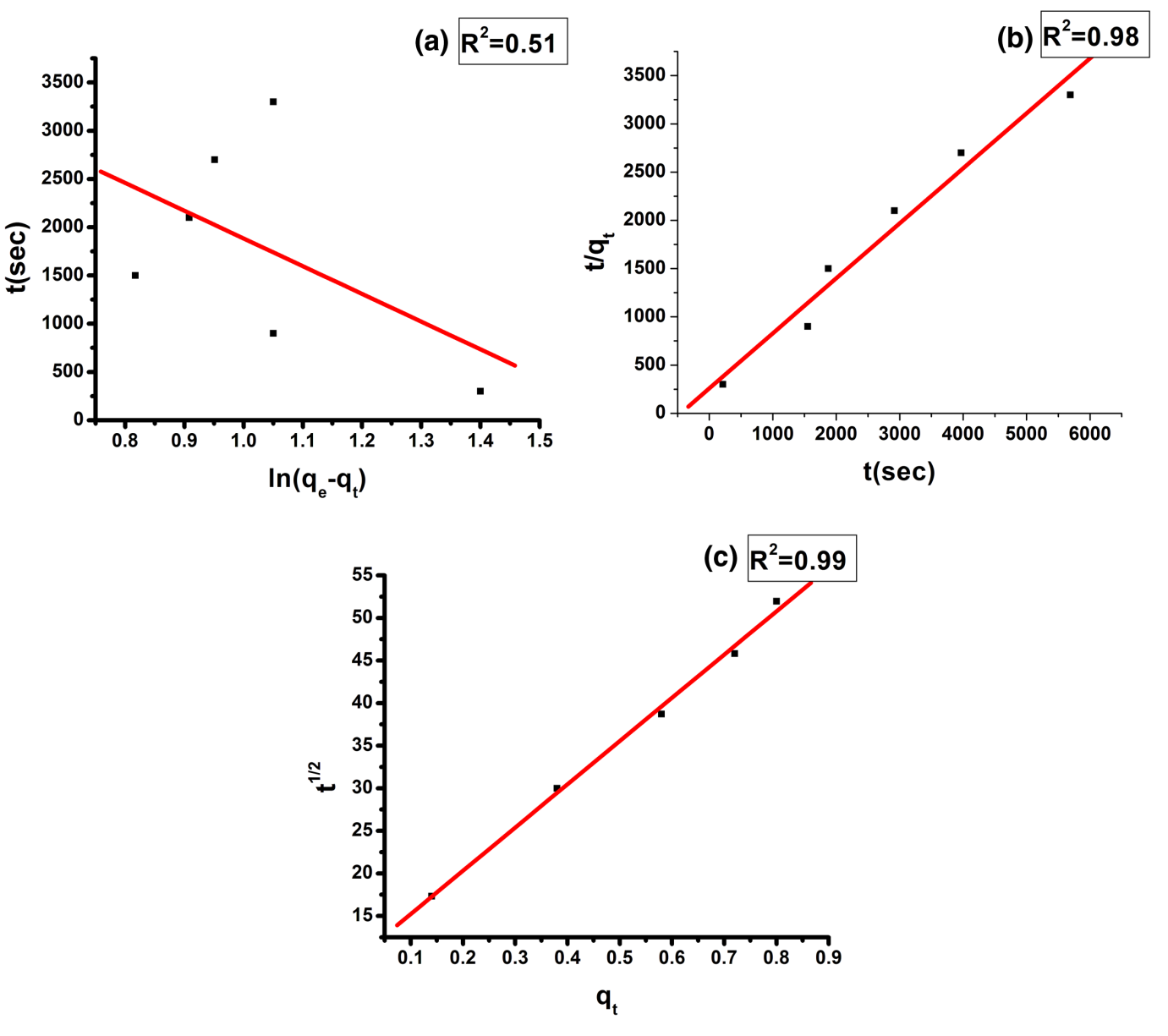
**Fig. S1 Mechanism of adsorption of Pb (II) and As (III) ions on GCIO**



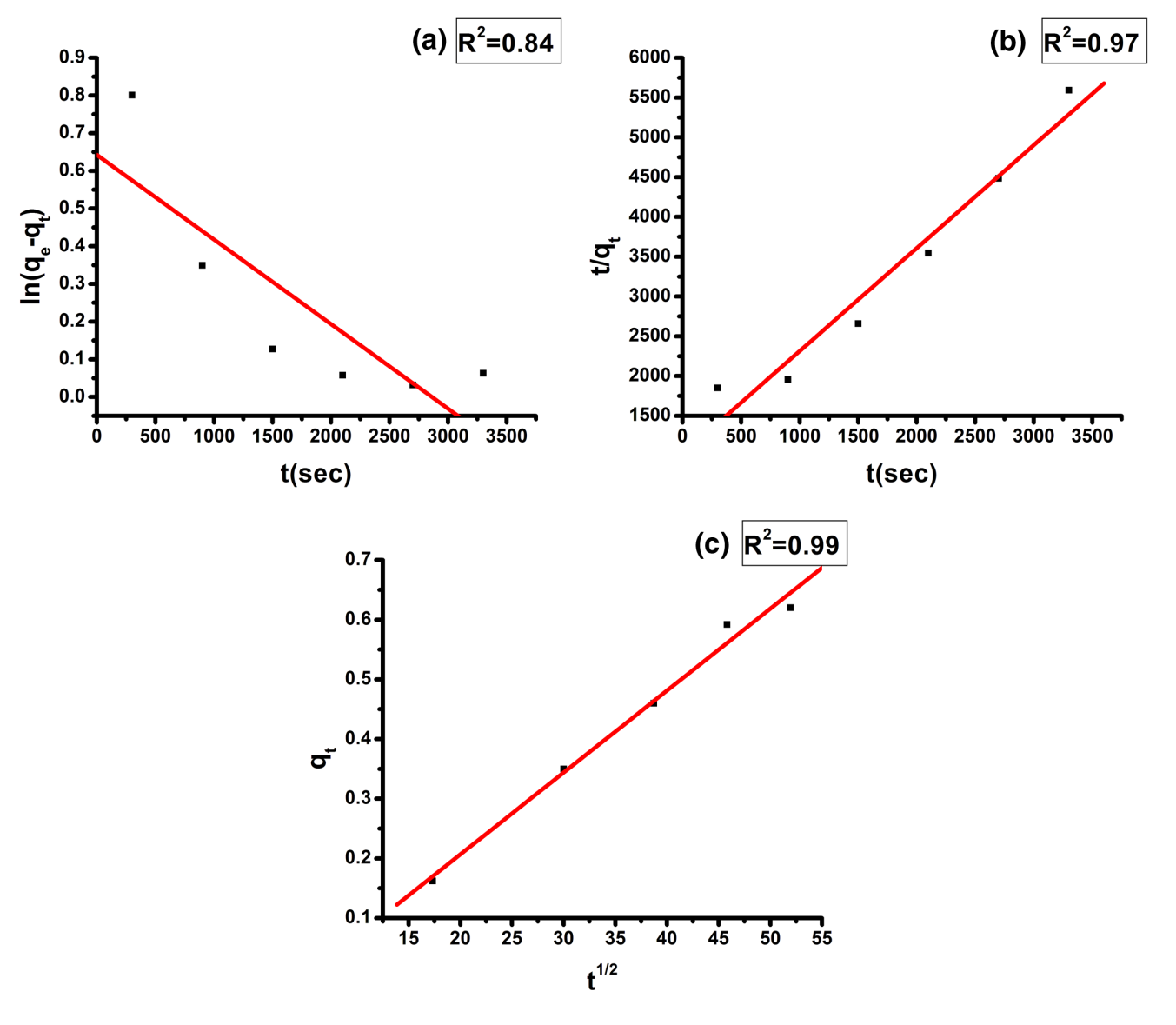
**Fig. S2 (a) Plots drawn for lead adsorption on GCIO in accordance with Langmuir isotherm, S2(b) Freundlich isotherm, S2(c) Temkin isotherm, and S2(d) D-R isotherm models**

****

**Fig. S3 (a) Plots drawn for arsenic adsorption on GCIO in accordance with Langmuir isotherm, S3(b) Freundlich isotherm, S3(c) Temkin isotherm, and S3(d) D-R isotherm models**

****

**Fig. S4 (a) Pseudo first order kinetic model for lead removal, S4(b) Pseudo second order kinetic model for lead removal and S4(c) Intraparticle diffusion model for lead removal**

****

**Fig. S5 (a) Pseudo first order kinetic model for arsenic removal, S5(b) Pseudo second order kinetic model for arsenic removal and S5(c) Intraparticle diffusion model for arsenic removal**