

Supplementary Materials

# Comparative Screening Study on the Adsorption of Aqueous Pb(II) using Different Metabolically Inhibited Bacterial Cultures from Industry

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## Supplementary Materials

### pH Results

**Table S1.** Experimental data for two-phase pseudo-first-order kinetics for metabolically inactive adsorbents.

Adsorbents	SS	C1	C2	Cons	PB	KP
Initial pH	5.08	5.13	5.86	4.64	4.63	6.13
Final pH	5.7	6.04	6.25	4.92	4.74	5.83
Control pH	4.82	4.82	4.82	4.7	4.66	5.14

**Table S2.** Statistical test for temperature effect.

Adsorbents	P Value	Statistical Difference in Datasets Statistically Significant (P<0.05)?	Matching P Value	Is There Significant Matching
SS	0.066	No	<0.001	Yes
C1	0.1376	No	<0.001	Yes
C2	0.1671	No	<0.001	Yes
Cons	0.0988	No	<0.001	Yes
PB	0.2172	No	<0.001	Yes
KP	0.356	No	<0.001	Yes

### Kinetic Fits

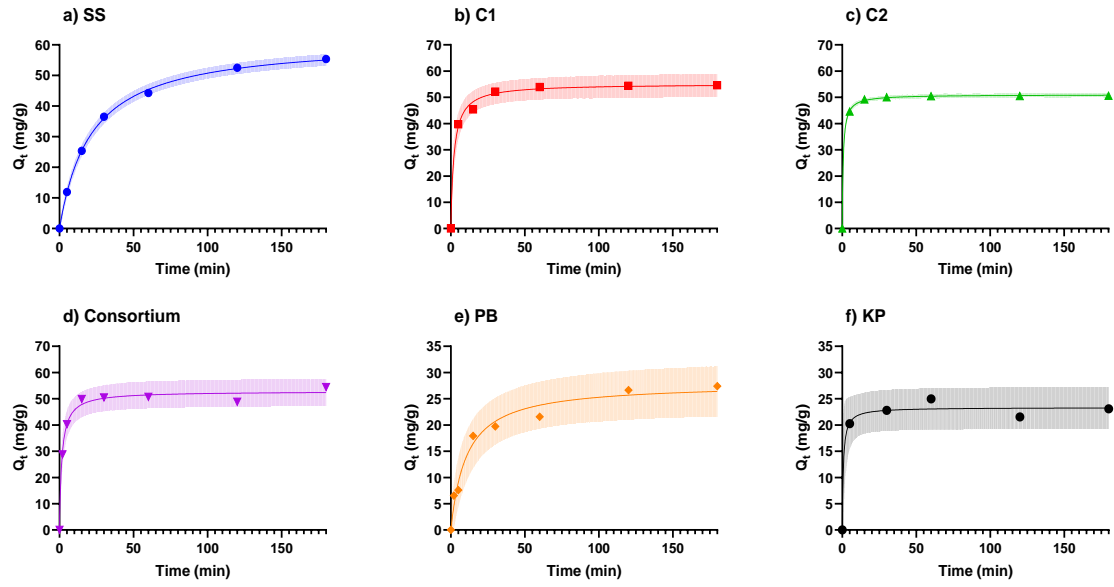


Figure S1. Pseudo-second-order kinetics of Pb(II) onto metabolically inactive adsorbents.

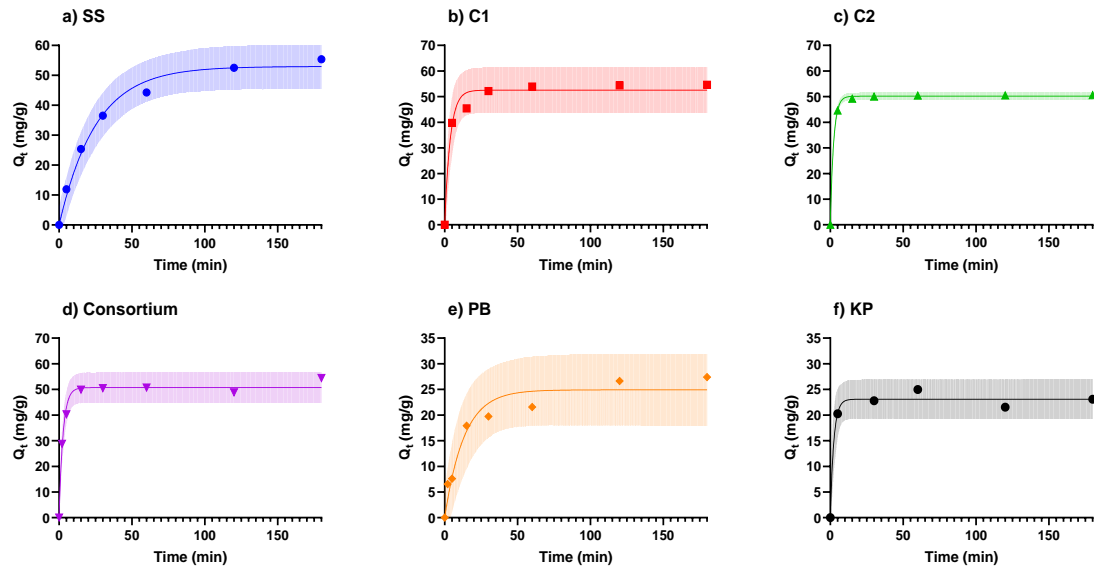


Figure S2. Pseudo-first-order kinetics of Pb(II) onto metabolically inactive adsorbents.

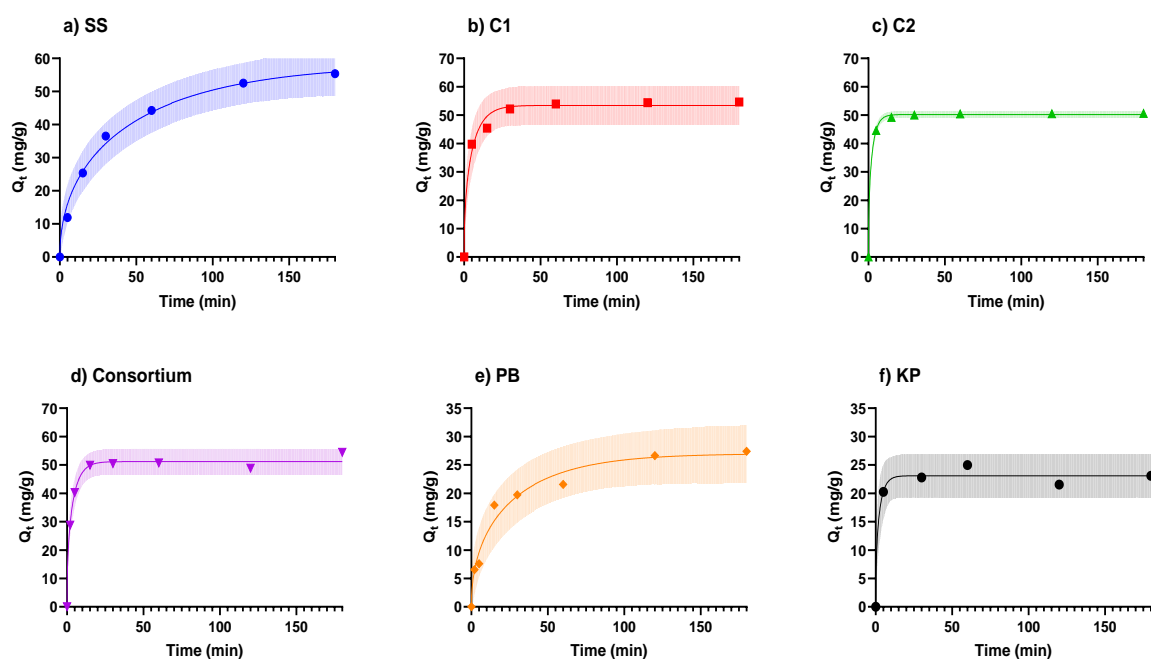


Figure S3. Cranks mass transfer model of Pb(II) onto metabolically inactive adsorbents.

### Isotherm Fits

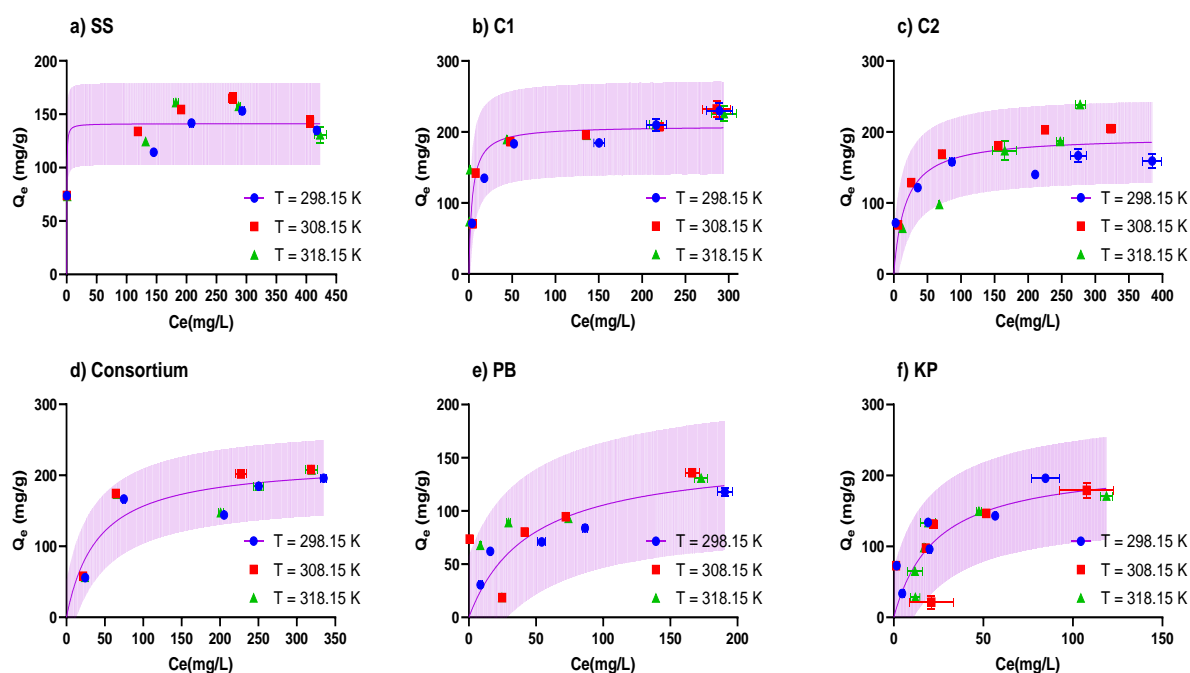


Figure S4. Langmuir isotherm for metabolically inactive adsorbents.

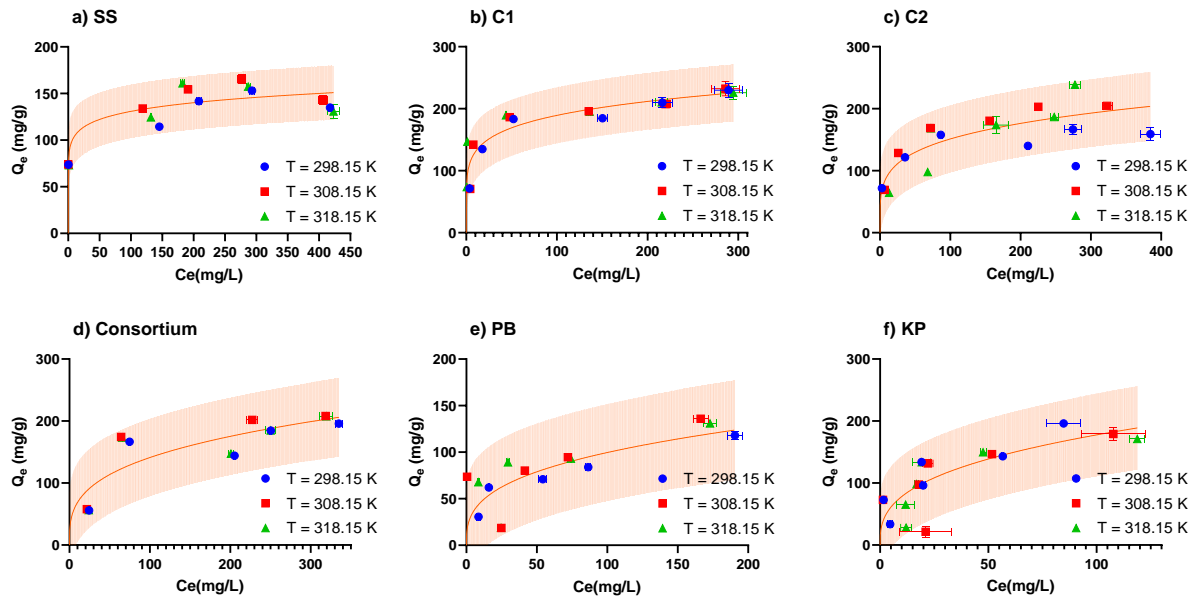


Figure S5. Freundlich isotherm for metabolically inactive adsorbents.

#### BET Hysteresis Loops

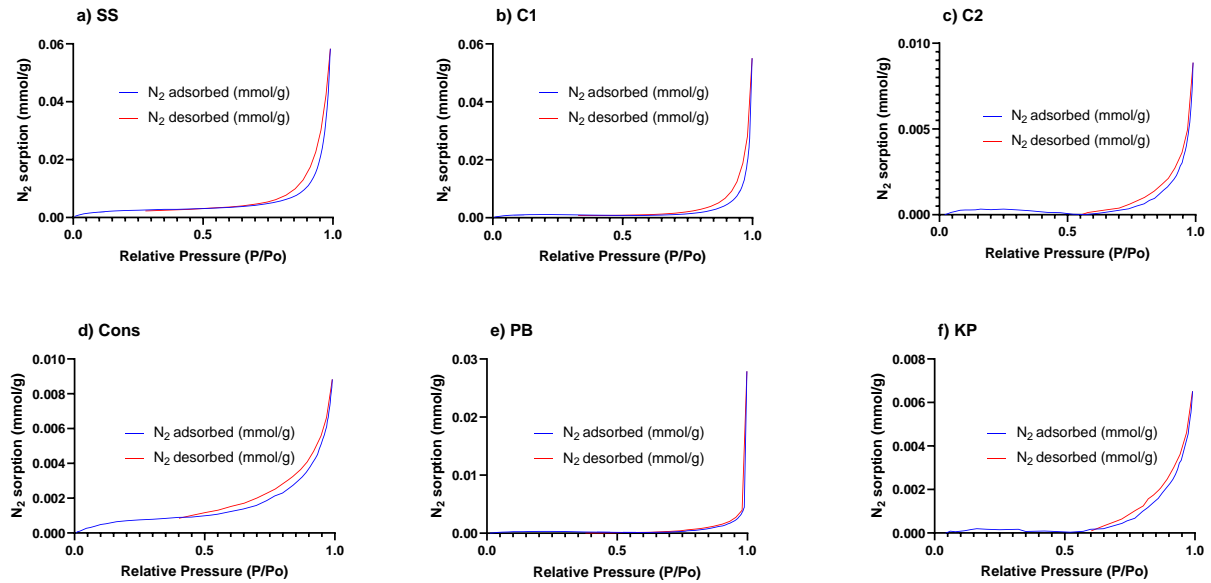
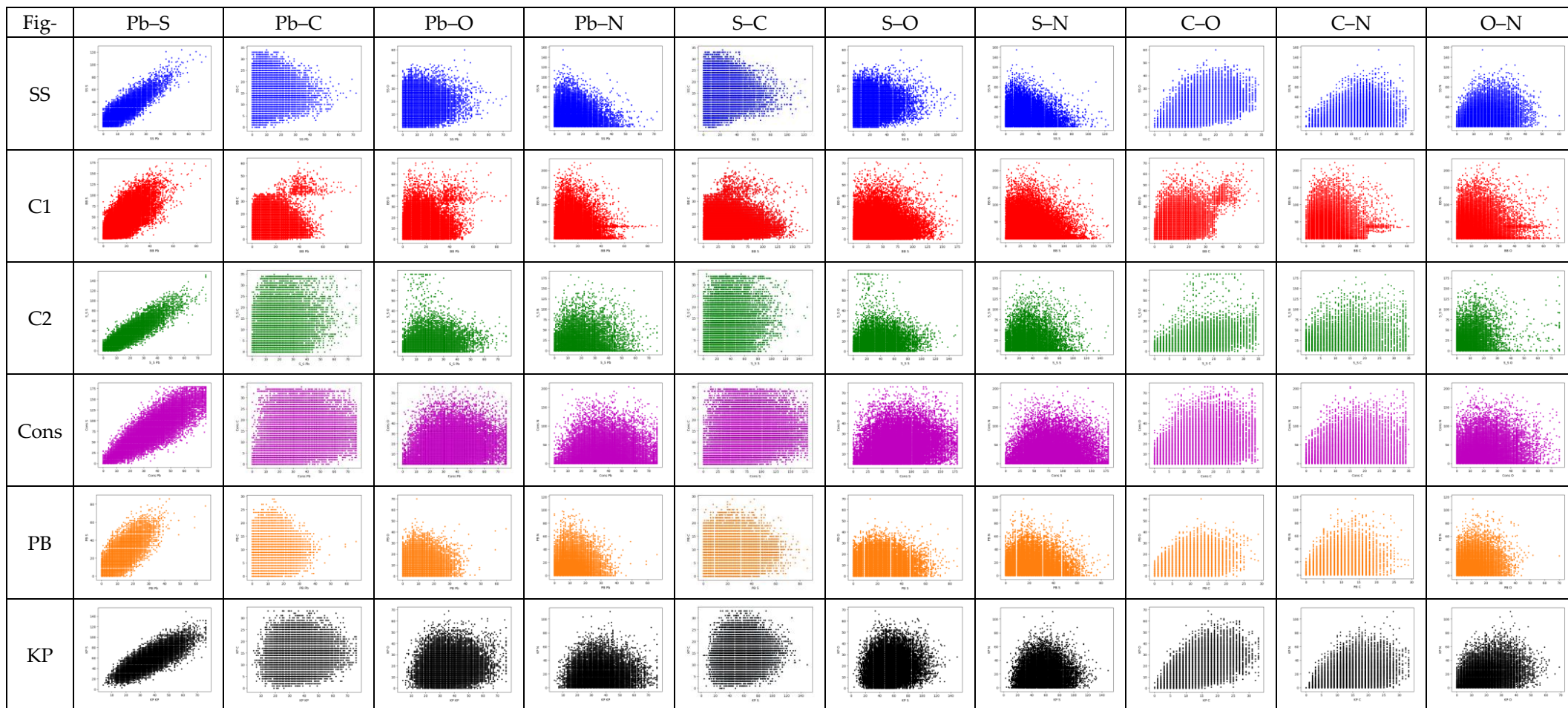


Figure S6. Hysteresis loops for BET for the different biosorbents.



**Figure S7.** Correlation graphs of elemental compositions and location obtained from SEM-EDX.