

APPENDIX D Duplication data for optimisation of biosorption and existing models

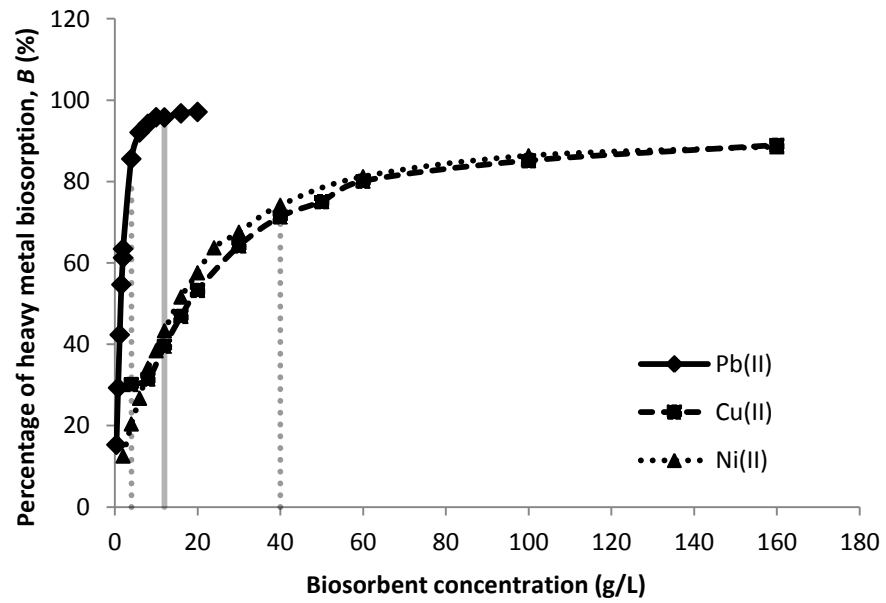


Figure D1 The effect of biosorbent concentration on heavy metal biosorption

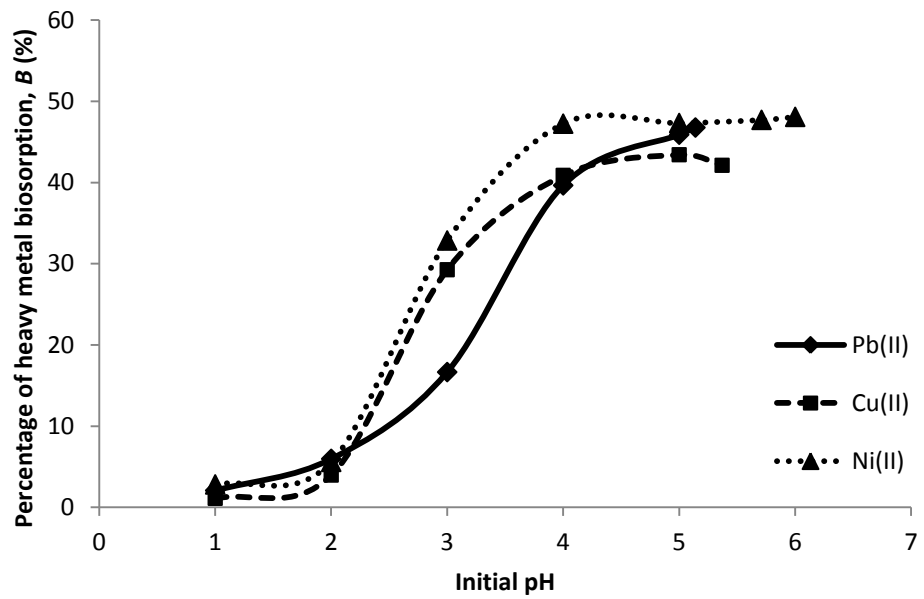


Figure D2 The effect of initial pH on heavy metal biosorption

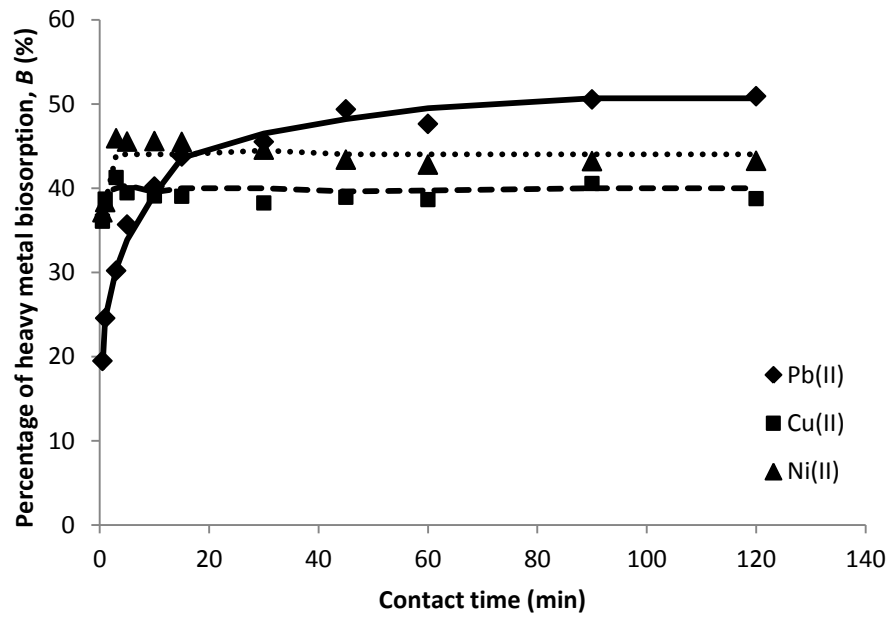


Figure D3 The effect of contact time on heavy metal biosorption

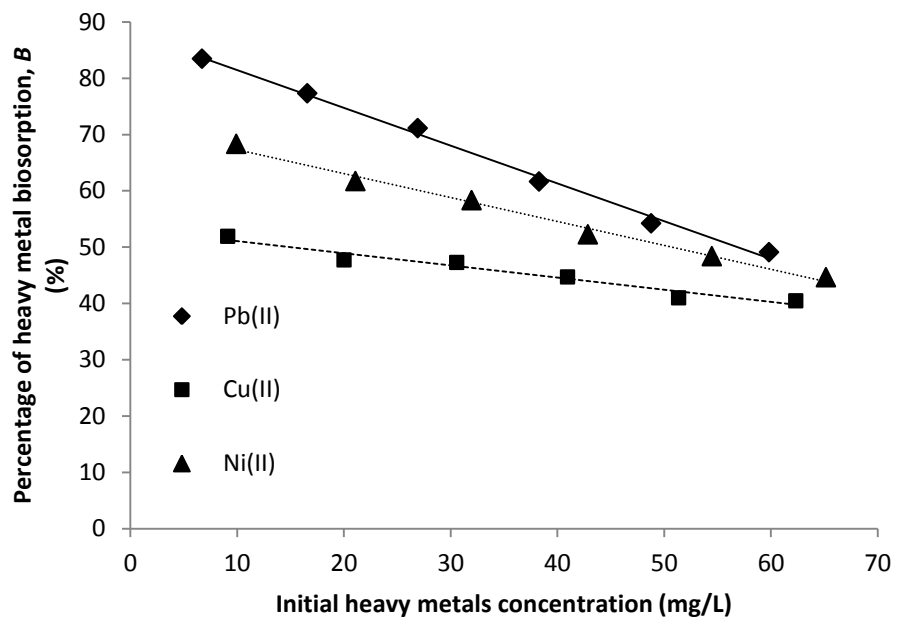


Figure D4 The effect of initial heavy metal concentration on heavy metal biosorption

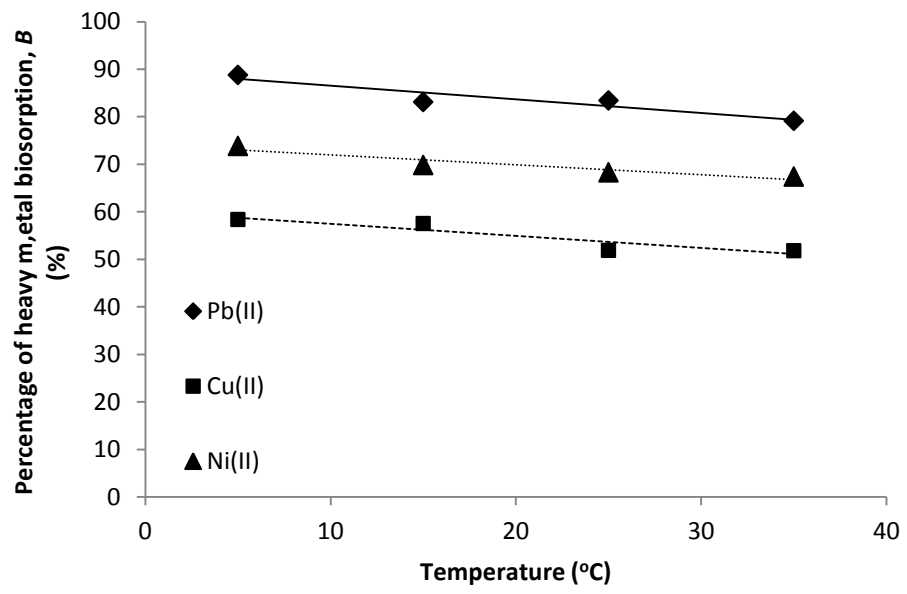


Figure D5 The effect of temperature on heavy metal biosorption

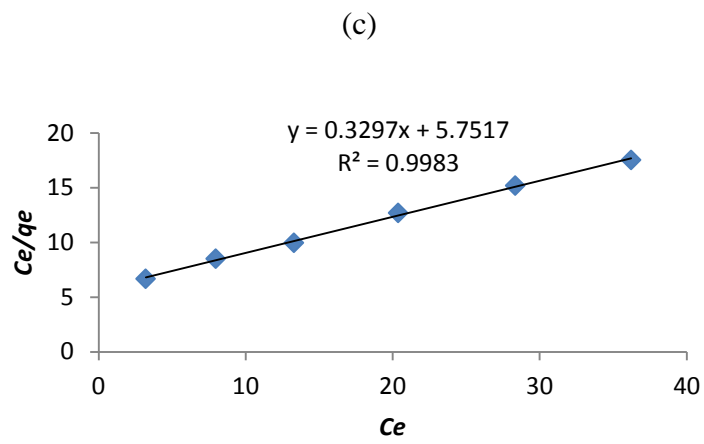
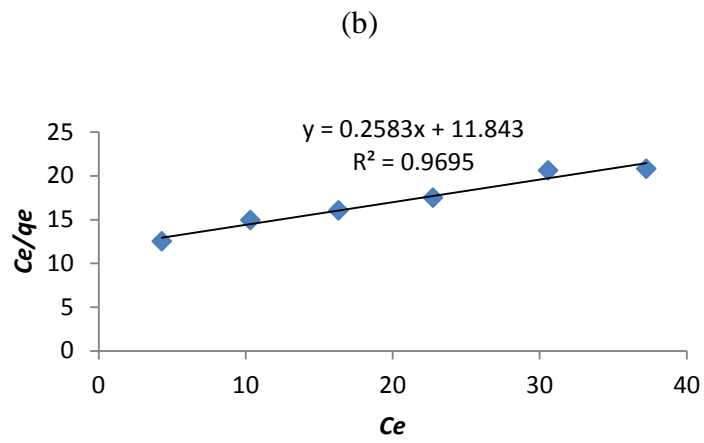
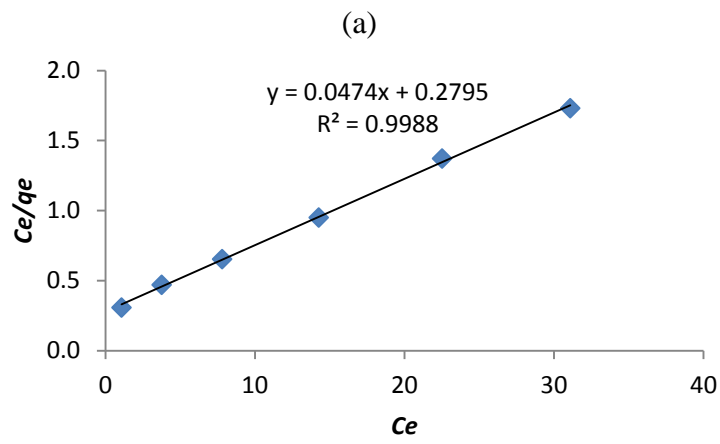


Figure D6 Langmuir isotherm (a) Pb(II) (b)Cu(II) (c) Ni(II)

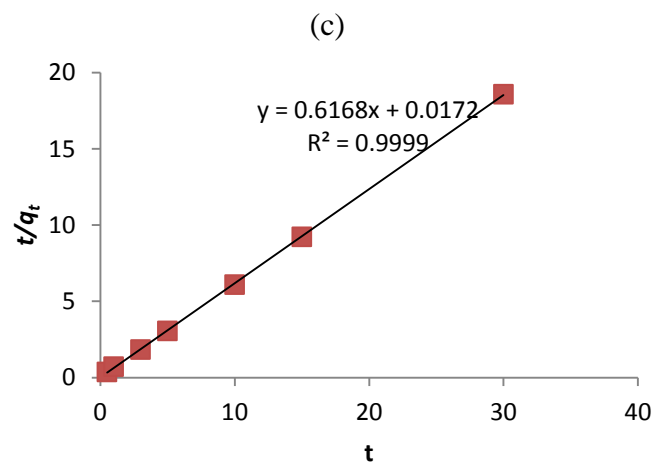
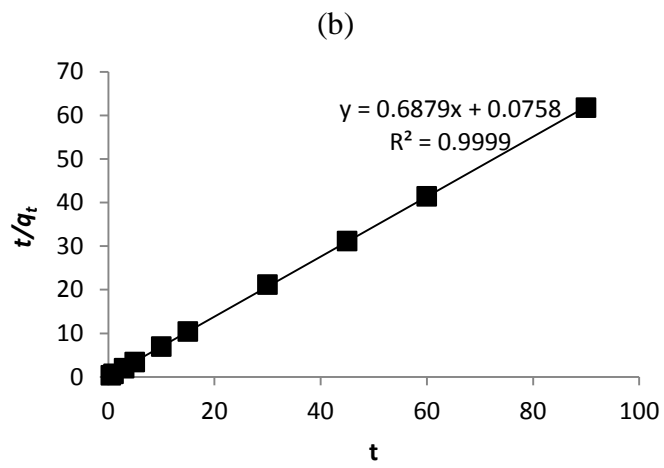
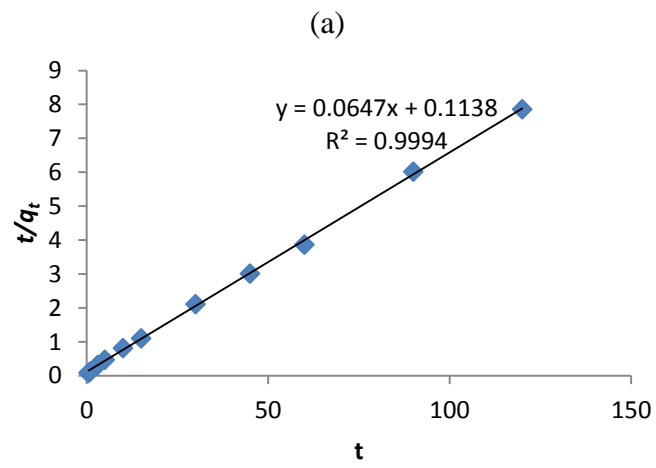


Figure D7 Pseudo second-order kinetic (a) Pb(II) (b)Cu(II) (c) Ni(II)

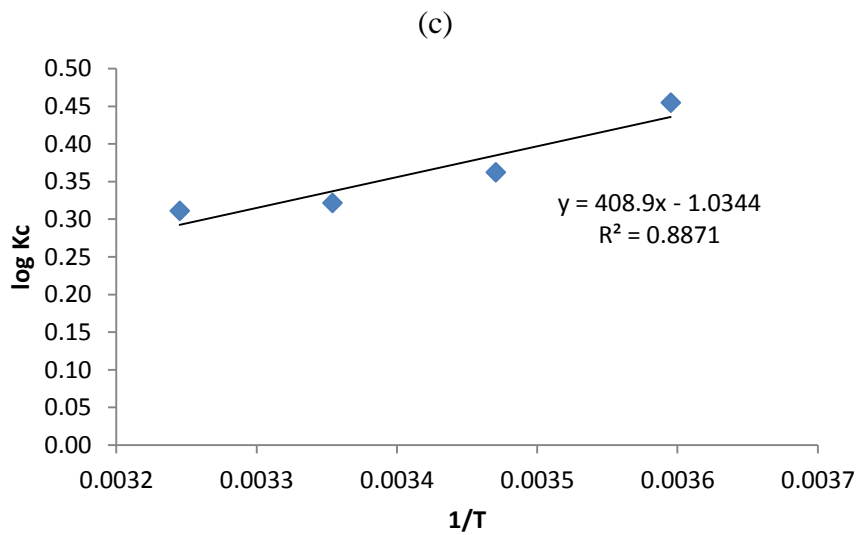
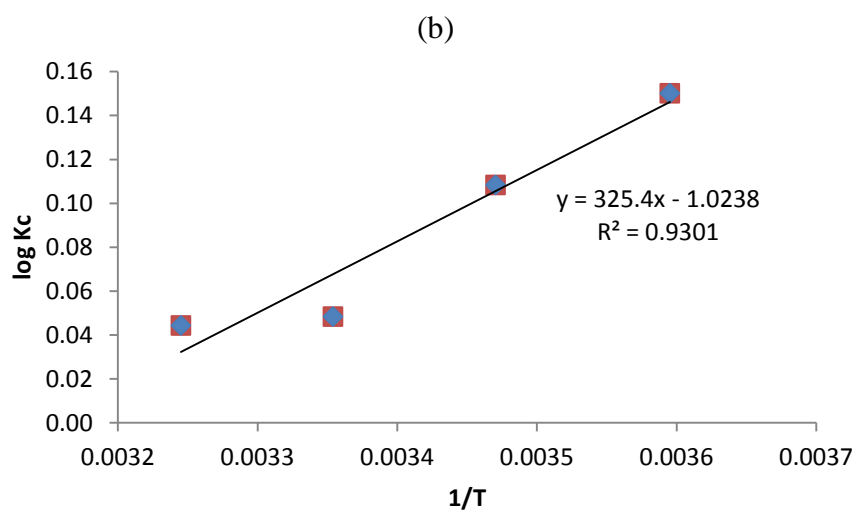
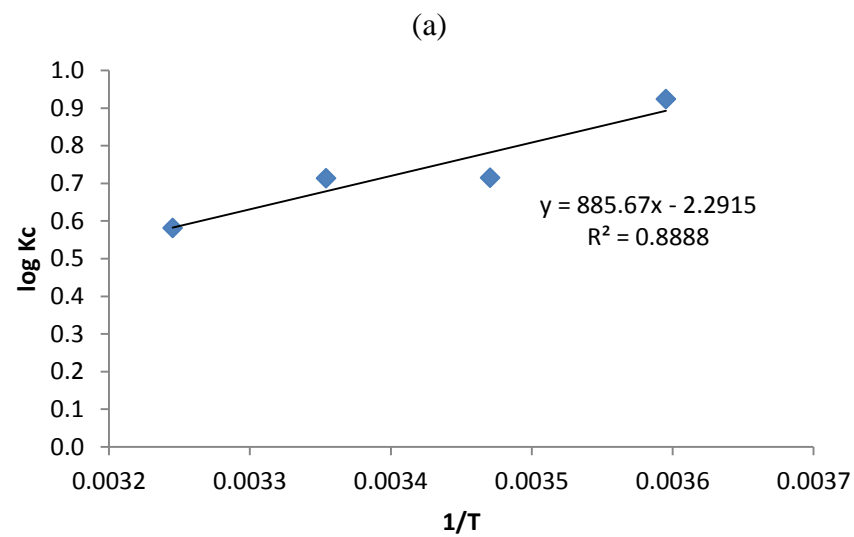


Figure D8 Thermodynamic (a)Pb(II) (b)Cu(II) (c) Ni(II)