

Application of commercial ion exchange resin, Amberjet 4200 for selective Pd(II) and Pt(IV) separation from Pd(II)-Pt(IV) binary metal solution by using column chromatography system

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In present research, the selective separation of Pd(II) from Pd(II)-Pt(IV) binary mixture metal solution was investigated by using column chromatography system. The commercial ion exchange resin, Amberjet 4200 was packed in the column for selective separation of Pd(II). 0.005M and 1M thiourea solution, prepared using 0.1M HCl solution were used as eluents for Pd(II) and Pt(IV), respectively. From the results of column chromatography, it was observed that within 30 min separate peaks for Pd(II) and Pt(IV) were resulted. Firstly, 97.2 % of injected Pd(II) was selectively separated from Pd(II)-Pt(IV) binary metal solution with 0.005M thiourea through the Amberjet 4200 packed column. After Pd(II) separation, the Pt(IV) peak was observed while using 1M thiourea eluent. Finally it was observed that 93.5 % of Pt(IV) was recovered from injected Pd(II)-Pt(IV) binary metal solution.