Recoverable and Cost-Effective Platinum Catalysts for Hydrosilylation Applications

Sy au Łtuv tepotved in 1947, iv hau become a ke{ ptoceuu fot vhe otgano h{dtouil{lavion iu tecogni|ed au one of vhe mouv impotvanv commetcial applicavionu of plavinwm in homoge

Wivh an euvimaved matkev xalwe of $18 billion, h{dtouil{lavion ptodwcvu ate wued in toad conuvtwcvion, btidgeu, pipelineu, and ovhet commetcial applicavionu, and vhe{ ate ezpecved vo haxe a majot tole in emetging applicavionu uwch au elecvtic xehicleu, healvh, and petuonal cate. Hoyexet, vhe otganouilicon indwuvt{øu teli ance on deplevable plavinwm-baued

dexelopmenv of incteauingl{ efŁcienv and couv-effecvixe plavinwm caval{uvu. In addivion, commetcial couv con

and yivh a high degtee of uelecvix iv{ vo leuuen vhe need fot addivional ptodwcv pwtiŁcavion.

Homogeneowu plavinwm caval{uvu wued in h{dtouil{lavion teacvionu ofven

accownv fot wp vo 30% of vhe Łnal couv of a ptodwcv *(1, 2)*. Hoyexet, in mouv inuvanceu, high ptodwcv xiucouiv{ pto hibivu vhe tecoxet{ of vhe plavinwm and vhe pwtiŁcavion of vhe ptodwcv. Thiu affecvu nov onl{ vhe couv of ptodwcv ptepatavion bwv aluo vhe uhelf life of vhe ptodwcv ivuelf dwe vo vhe pteuence of vhe caval{uv. Thwu, vhe dexelop menv of a hevetogeneowu caval{uv, yhich wueu a uwppotv, yowld axoid pteciowu meval louu in vhe ptodwcv uvteam vhtowgh eau{ uepavavion of vhe caval{uv and ptodwcv uvteamu in bavch and convinwowu opetavionu, ptoxiding a mote couv-effecvixe apptoach vhav v ptodm yhich wulto _   wcv uvtea v o $

The Cenvet fot Ravional Caval{uv S{nvheuiu (CeRCaS) ô an Indwuvt{- Unixetuiv{ Coopetavixe Reueatch Cenvet (IUCRC) fwnded b{ vhe U.S. Navional Science Fowndavion (NSF) inxolxing Vitginia Commonyealvh Unix., vhe Unix. of Sowvh Catolina, vhe Unix. of Califotnia, Daxiu, and vhe Unix. of Califotnia, Betkele{ ô hau focwued on dexeloping and ezpand ing a ney mevhod of u{nvheui|ing highl{ acvixe hevetogeneowu caval{uvu. One of vhe mevhodu vhav CeRCaS emplo{u combineu vhe wue of uvtong elecvtouvavic aduotpvion vechni weu