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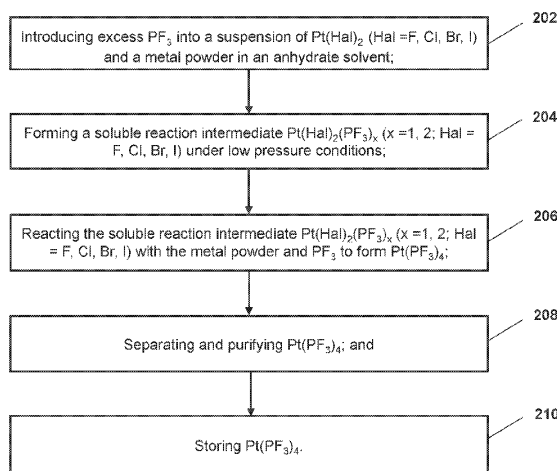
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LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG,(54) Title: LOW PRESSURE PROCESS FOR SYNTHESIS OF $\text{Pt}(\text{PF}_3)_4$ INVOLVING A SOLUBLE INTERMEDIATE AND STORAGE OF OBTAINED $\text{Pt}(\text{PF}_3)_4$ 

FIG. 2a

(57) **Abstract:** A method for synthesizing $\text{Pt}(\text{PF}_3)_4$ (CAS # 19529-53-4) comprises dissolving a platinum compound having a general formula, $\text{Pt}(\text{Hal})_2(\text{PF}_3)_x$, in an anhydrous solvent forming a $\text{Pt}(\text{Hal})_2(\text{PF}_3)_x$ solution, wherein $\text{Hal} = \text{F}, \text{Cl}, \text{Br}$ or I , $x = 1, 2$, adding a metal powder and excess amount of PF_3 into the $\text{Pt}(\text{Hal})_2(\text{PF}_3)_x$ solution, and forming $\text{Pt}(\text{PF}_3)_4$ through a reaction between $\text{Pt}(\text{Hal})_2(\text{PF}_3)_x$, PF_3 and the metal powder under a reaction condition. The method further comprises synthesizing $\text{Pt}(\text{Hal})_2(\text{PF}_3)_x$ through the steps of dispersing a platinum precursor having a general formula, $\text{Pt}(\text{Hal})_2$, into the anhydrous solvent forming a suspension of $\text{Pt}(\text{Hal})_2$, wherein $\text{Hal} = \text{F}, \text{Cl}, \text{Br}$ or I , introducing PF_3 into the suspension of $\text{Pt}(\text{Hal})_2$, and forming the solution of the platinum compound $\text{Pt}(\text{Hal})_2(\text{PF}_3)_x$ in the anhydrous solvent through a reaction of PF_3 and $\text{Pt}(\text{Hal})_2$.

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