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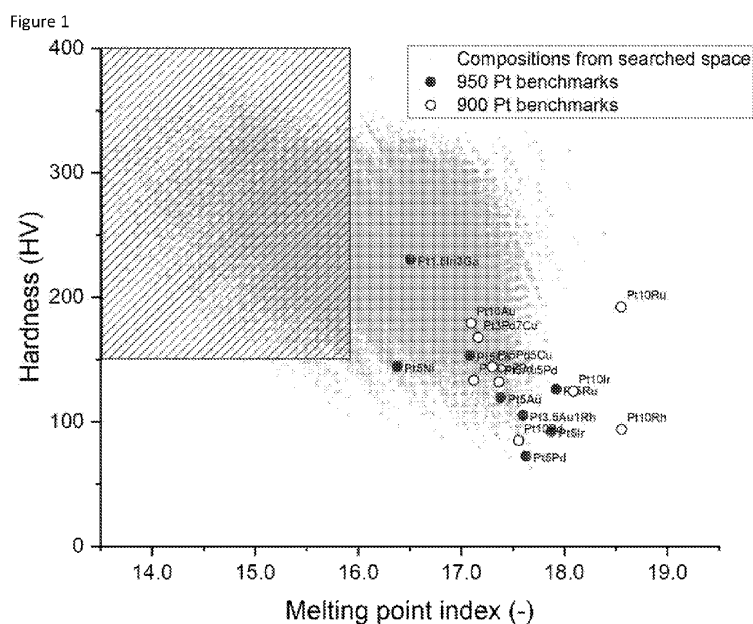
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(54) Title: A PLATINUM ALLOY COMPOSITION



(57) Abstract: A platinum alloy composition consisting, in weight percent, of: 0.0 to 10.0 gold, 0.0 to 5.0 cobalt, 0.0 to 10.0 copper, 0.0 to 7.0 iron, 0.0 to 4.0 gallium, 0.0 to 3.0 indium, 0.0 to 5.0 iridium, 0.0 to 10.0 manganese, 0.0 to 7.0 nickel, 0.0 to 15.0 palladium, 0.0 to 5.0 rhenium, 0.0 to 5.0 rhodium, 0.0 to 10.0 ruthenium, 0.0 to 3.0 tin, 85.0 or more platinum and incidental impurities, wherein two or more of gallium, indium and tin are present in an amount of 0.1 or more, wherein the following equation is satisfied in which W_{Co} , W_{Cu} , W_{Fe} , W_{Ga} , W_{In} , W_{Ni} , W_{Pd} , W_{Sn} , W_{Rh} , W_{Ir} , W_{Au} , W_{Ru} , W_{Re} , and W_{Mn} are the weight percent of cobalt, copper, iron, gallium, indium, nickel, palladium, tin, rhodium, iridium, gold, ruthenium, rhenium, and manganese in the alloy respectively $60 + W_{Pd} * 2.5 + W_{Rh} * 3.4 + W_{Ir} * 6.455 + W_{Au} * 11.93 + W_{Ru} * 13.241 + W_{Cu} * 14.328 + W_{Re} * 16.6 + W_{Ni} * 16.9 +$

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$W_{Mn} * 18.48 + W_{Co} * 18.69 + W_{Fe} * 21.879 + W_{In} * 29 + W_{Sn} * 28.207 + W_{Ga} * 42.379 \geq 150$ and wherein one of the following conditions is satisfied in which W_{Co} , W_{Cu} , W_{Fe} , W_{Ga} , W_{In} , W_{Ni} , W_{Pd} , W_{Sn} , W_{Mn} , W_{Ru} , W_{Ir} , W_{Rh} , W_{Au} , W_{Pt} and W_{Re} are the weight percent of cobalt, copper, iron, gallium, indium, nickel, palladium, tin, manganese, ruthenium, iridium, rhodium, gold, platinum and rhenium in the alloy respectively $-0.1028 * W_{Co} - 0.1201 * W_{Cu} - 0.2113 * W_{Fe} - 0.3368 * W_{Ga} - 0.1125 * W_{In} - 0.1639 * W_{Ni} - 0.015 * W_{Pd} - 0.1959 * W_{Sn} + 17.276261 - 0.20 * W_{Mn} + 0.0678 * W_{Ru} + 0.035 * W_{Ir} + 0.045 * W_{Rh} - 0.059 * W_{Au} + 0.066 * W_{Re} \leq 16.0$ when $W_{Pt} < 95.0$ and $-0.1028 * W_{Co} - 0.1201 * W_{Cu} - 0.2113 * W_{Fe} - 0.3368 * W_{Ga} - 0.1125 * W_{In} - 0.1639 * W_{Ni} - 0.015 * W_{Pd} - 0.1959 * W_{Sn} + 17.276261 - 0.20 * W_{Mn} + 0.0678 * W_{Ru} + 0.035 * W_{Ir} + 0.045 * W_{Rh} - 0.059 * W_{Au} + 0.066 * W_{Re} \leq 16.6$ when $W_{Pt} \geq 95.0$ and wherein the following equations are satisfied in which W_{Co} , W_{Cu} , W_{Fe} , W_{Ga} , W_{In} , W_{Ni} , W_{Pd} , W_{Sn} and W_{Au} are the weight percent of cobalt, copper, iron, gallium, indium, nickel, palladium, tin, and gold in the alloy $0.35W_{Au} + 0.6W_{Sn} + 0.6W_{In} + W_{Ga} \leq 3.75$ $W_{Co} + W_{Pd} + W_{Fe} + W_{Ni} + W_{Cu} \geq 1.0$ $W_{Sn} + W_{In} + W_{Ga} \geq 0.25$.