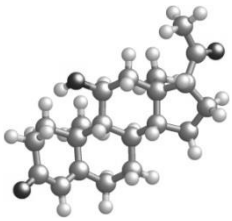

Chem!stry

Name: …… **( )**

Class: ……

Date: …… **/** …… **/** ……

Ionic Equations for Redox Reactions – Advanced

● For each one of the following reactions, deduce two logical ionic half-equations (one for each reactant). Next, combine the two ionic half-equations together in order to produce a single ionic equation that accurately describes the chemical changes that are taking place.

● For each reaction, identify the species that has been oxidised and the species that has been reduced.

● For each reaction, identify the oxidising agent and the reducing agent.

Question One:

$CH_3CH_2OH(aq) + MnO_4^-(aq) \rightarrow CH_3CHO(aq) + Mn^{2+}(aq)$

Question Two:

$CH_3CHO(aq) + Ag^+(aq) \rightarrow CH_3COOH(aq) + Ag(s)$

Question Three:

$C_6H_5NO_2(aq) + Sn(s) \rightarrow C_6H_5NH_2(aq) + SnCl_4(aq)$

Question Four:

$Hg^{2+}(aq) + N_2O_4(aq) \rightarrow NO_3^-(aq) + Hg_2^{2+}(aq)$

Question Five:

$MnO_4^-(aq) + SbH_3(aq) \rightarrow MnO_2(s) + Sb(s)$ Note: This reaction takes place in a *basic* medium.

Question Six:

$Cr_2O_7^{2-}(aq) + NO_2^-(aq) \rightarrow Cr^{3+}(aq) + NO_3^-(aq)$

- Scan the QR code below for the answers to this assignment.

http://www.chemist.sg/redox/advanced_ionic_equations_ans.pdf