Chemistry 141 Name

Dr Cary Willard October 3, 2012

Quiz 4a (20 points)

1. (4 points) For the following balanced redox reaction identify the elements oxidized and reduced as well as the oxidizing and reducing agents

K2Cr2O7 + 6 FeSO4 + 7H2SO4 🡪 Cr2(SO4)3 + 3 Fe2(SO4)3 + K2SO4 + 7 H2O

Element oxidized Element reduced

Oxidizing agent Reducing agent

1. (8 points) Balance the following redox reaction in acid. Show the two half reactions and tell which is an oxidation and which is a reduction.

S2O32– + Br2 🡪 SO42– + Br–

Half reaction 1 -

Half reaction 2 -

Overall reaction balanced in acid

1. (8 points) Balance the following redox reaction in base. Show the two half reactions and tell which is an oxidation and which is a reduction.

MnO4– + Cl1– 🡪 MnO2 + ClO3–

Half reaction 1 -

Half reaction 2 -

Overall reaction balanced in acid (optional)

Overall reaction balanced in base

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Quiz 4a (20 points)

1. (4 points) For the following balanced redox reaction identify the elements oxidized and reduced as well as the oxidizing and reducing agents

2 KMnO4 + 5 K2C2O4 + 8H2SO4 🡪 2 MnSO4 + 10 CO2 + 6 K2SO4 + 8 H2O

Element oxidized Element reduced

Oxidizing agent Reducing agent

1. (10 points) Balance the following redox reaction in acid. Show the two half reactions and tell which is an oxidation and which is a reduction.

S2O32– + Cl2 🡪 SO42– + Cl–

Half reaction 1 -

Half reaction 2 -

Overall reaction balanced in acid

1. (10 points) Balance the following redox reaction in base. Show the two half reactions and tell which is an oxidation and which is a reduction.

MnO4– + Br1– 🡪 MnO2 + BrO3–

Half reaction 1 -

Half reaction 2 -

Overall reaction balanced in acid (optional)

Overall reaction balanced in base