

Intermediate Inorganic Chemistry

10

1. The following reaction is a redox reaction. Write the half-reactions and balance the overall reaction.



2. The following reaction is a redox reaction. Write the half-reactions and balance the overall reaction.



3. The following reaction is a redox reaction. Write the half-reactions and balance the overall reaction.



4. The following reaction is a redox reaction. Write the half-reactions and balance the overall reaction.



1. Write the balanced chemical equation for the following reaction.

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i. Write the balanced chemical equation for the following reaction.



ii. Write the balanced chemical equation for the following reaction.



iii. Write the balanced chemical equation for the following reaction.



iv. Write the balanced chemical equation for the following reaction.



v. Write the balanced chemical equation for the following reaction.



vi. Write the balanced chemical equation for the following reaction.



vii. Write the balanced chemical equation for the following reaction.



viii. Write the balanced chemical equation for the following reaction.



b. Crystal Field Theory;

c. Molecular Orbital Approach;

d. Spectroscopy I: UV-Vis (theory and applications);

e. Metal Ligand bond strength Spectroscopy II: Infra red (theory and applications).

and (oxidative addition and

reductive elimination);

introduction of catalytic reactions and of

TOPICS IN ANALYSIS ON METAL CHEMISTRY

a. First row (3d) metals:

1. Oxidation states and complexes of elements in the range of oxidation states (elemental, oxides and acids) (elemental, oxides and acids)

2. ORGANOMETALLIC CATALYSIS - CHEMISTRY AND MECHANISMS

a. Energy considerations

i. Oxidation states and complexes of elements in the range of oxidation states (elemental, oxides and acids)

ii. Oxidation states and complexes of elements in the range of oxidation states (elemental, oxides and acids)

iii. Oxidation states and complexes of elements in the range of oxidation states (elemental, oxides and acids)

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viii. Oxidation states and complexes of elements in the range of oxidation states (elemental, oxides and acids)

ix. Oxidation states and complexes of elements in the range of oxidation states (elemental, oxides and acids)

Suggested reading materials

Houston, G. F. and Alan G. Sharpe. *Inorganic Chemistry*, 2nd ed. Prentice Hall, 2003.

Wainman, F. W. *Chemistry of the Elements*, 2nd ed. McGraw-Hill, 1962.

Wainman, F. W. *Chemistry of the Elements*, 2nd ed. McGraw-Hill, 1962.

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