



Unit 6 - Week 4

Assignment 4

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-08-28, 23:59 IST.

 1) 1 point

The volume of 0.1 M AgNO_3 required for complex precipitation of AgCl from 50 mL 0.01 M solution of $[\text{Cr}(\text{H}_2\text{O})_5\text{Cl}_2]\text{Cl}$ is close to

- A. 2 mL
B. 4 mL
C. 5 mL
D. 3 mL

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
C.

 2) 1 point

The complexes $[\text{Co}(\text{NH}_3)_5\text{NO}_2]\text{Cl}_2$ and $[\text{Co}(\text{NH}_3)_5\text{ONO}]\text{Cl}_2$ are examples of

- A. linkage isomers
B. ionisation isomers
C. geometrical isomers
D. coordination isomers

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
A.

 3) 1 point

Total number of geometrical isomers for the complex $[\text{RhCl}(\text{CO})(\text{PPh}_3)(\text{NH}_3)]$ is

- A. 3
B. 2
C. 1
D. 4

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
A.

 4) 1 point

The correct relation between K_f and K_d is

- A. $K_f = K_d$
B. $K_f = 1/K_d$
C. $K_f = 1/K_d^2$
D. $K_f = \sqrt{K_d}$

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
B.

 5) 1 point

The stability constant value of $[\text{Cu}(\text{NH}_3)_4]^{2+}$ and $[\text{Cu}(\text{en})_2]^{2+}$ is 1.1×10^{13} and 1.0×10^{20} respectively implies the presence of

- A. high dilution effect
B. chelation effect
C. instability effect
D. equilibrium effect

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
B.

 6) 1 point

The ionization isomer of $[\text{Cr}(\text{H}_2\text{O})_4\text{Br}(\text{NO}_2)]\text{Br}$ is

- A. $[\text{Cr}(\text{H}_2\text{O})_4(\text{O}_2\text{N})]\text{Br}_2$
B. $[\text{Cr}(\text{H}_2\text{O})_4\text{Br}(\text{ONO})]\text{Cl}$
C. $[\text{Cr}(\text{H}_2\text{O})_4\text{Br}_2](\text{NO}_2)$
D. $[\text{Cr}(\text{H}_2\text{O})_3\text{Br}_2(\text{NO}_2)]\cdot\text{H}_2\text{O}$

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
C.

 7) 1 point

For the formation of $\text{Cu}(\text{NH}_3)_4^{2+}$ from $[\text{Cu}(\text{H}_2\text{O})_4]^{2+}$ upon reacting with ammonia, the formation constants K_1 , K_2 , K_3 and K_4 are 1.9×10^4 , 3.9×10^3 , 1.0×10^3 and 1.5×10^2 respectively for replacing one water molecule in each step. The formation constant for $[\text{Cu}(\text{H}_2\text{O})(\text{NH}_3)_3]^{2+}$ is

- A. 1.1×10^{13}
B. 7.4×10^7
C. 7.4×10^{10}
D. 1.4×10^{11}

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
C.

 8) 1 point

If a plane polarized light rotates to the left direction then it would be called

- A. levorotation
B. dextrorotation
C. conrotation
D. disrotation

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
A.

 9) 1 point

When one mole complex A is treated with excess AgNO_3 , 3 mole of AgCl was precipitated. Identify the structure of the complex A.

- A. $[\text{CrCl}_3(\text{H}_2\text{O})_3] \cdot 3\text{H}_2\text{O}$
B. $[\text{CrCl}_2(\text{H}_2\text{O})_4]\text{Cl} \cdot 2\text{H}_2\text{O}$
C. $[\text{CrCl}(\text{H}_2\text{O})_5]\text{Cl}_2 \cdot \text{H}_2\text{O}$
D. $[\text{Cr}(\text{H}_2\text{O})_6]\text{Cl}_3$

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
D.

 10) 1 point

Based on the given values, identify the complex ions which is most stable

$[\text{Cr}(\text{OH})_4]^-$ $K_f = 8.0 \times 10^{20}$; $[\text{Ni}(\text{CN})_4]^{2-}$ $\log(K_d) = -31.3$

$[\text{Co}(\text{NH}_3)_6]^{3+}$ $K_d = 2.2 \times 10^{-34}$; $[\text{Cu}(\text{CN})_4]^{3-}$ $\log(K_f) = 30.3$

- A. $[\text{Cr}(\text{OH})_4]^-$
B. $[\text{Ni}(\text{CN})_4]^{2-}$
C. $[\text{Co}(\text{NH}_3)_6]^{3+}$
D. $[\text{Cu}(\text{CN})_4]^{3-}$

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
C.

 11) 1 point

The isomerism shown by $[\text{Cu}(\text{NH}_3)_4][\text{PdCl}_4]$ and $[\text{Pd}(\text{NH}_3)_4][\text{CuCl}_4]$ is

- A. valence isomerism
B. ionisation isomerism
C. coordination isomerism
D. linkage isomerism

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
C.

 12) 1 point

A cis and trans isomers are chemically distinguished by

- A. reacting with a monodentate ligand
B. reacting with a ambidentate ligand
C. reacting with a bidentate ligand
D. none

- A.
 B.
 C.
 D.

No, the answer is incorrect.
Score: 0

Accepted Answers:
C.

Course outline

How to access the portal

Week 0 : Assignment 0

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Week 2

Week 3

Week 4

 Lecture 11: Isomerism - I

 Lecture 12: Isomerism - II

 Lecture 13: Co-ordination Equilibria - I

 Quiz : Assignment 4

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Week 12

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Assignment Solution