Week 4 Assignment

The due date for submitting this assignment has passed. Due on 2017-08-23, 23:59 IST. As per our records you have not submitted this assignment.

1) How many structures possible for [Co(NH₃)₆]Cl₃
   - 3 points
   - 4
   - 2
   - 5

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: 4

2) How many isomers is possible for [Pt(NH₃)₂Cl₂]
   - 2 points
   - 1
   - 2
   - 3
   - 4

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: 2

3) If a plane polarized light rotates to the right direction then it would be called
   - 2 points
   - levoration
   - dextrorotation
   - conrotation
   - disrotation

   No, the answer is incorrect.
   Score: 0
   Accepted Answers: dextrorotation

4) High formation constant of a ligand substitution reaction means
   - 2 points
   - Ligand substitution is less feasible
   - The rate of backward reaction is high enough
   - The rate of forward reaction is high enough
   - reaction remain in equilibrium

https://onlinecourses-archive.nptel.ac.in/noc17_cy10/unit?unit=19&assessment=68
No, the answer is incorrect.
Score: 0

Accepted Answers:
The rate of forward reaction is high enough

5) [Co(NH₃)₅H₂O]Cl₃ will react with NaNO₂ / Conc. HCl to form a compound which exist in both yellow & red form. What isomerism is expected here.

- linkage isomerism
- coordination isomerism
- ionization isomerism
- ligand isomerism

No, the answer is incorrect.
Score: 0

Accepted Answers:
 linkage isomerism

6) Addition of KI to a solution of [Ag(NH₃)₂]NO₃ precipitates AgI but no precipitate formed when KI is added to solution of K[Ag(CN)₂] of same molar concentration as the ammine complex. If the instability constants of the two complexes be K₁ and K₂ respectively then

- K₁ > K₂
- K₁ < K₂
- K₁ = K₂
- None of them

No, the answer is incorrect.
Score: 0

Accepted Answers:
 K₁ > K₂

7) KFe(II)[Cr(III)(CN)₆] & KCr(III)[Fe(II)(CN)₆] will show

- coordination sphere isomerism
- linkage isomerism
- ionization isomerism
- geometrical isomerism

No, the answer is incorrect.
Score: 0

Accepted Answers:
 linkage isomerism

8) Cr(III)-bonded thiocyanato complex is bonded by N-donor of NCS because

- Cr(III) is hard metal ion whereas N is soft.
- Cr(III) is soft metal ion and N is also soft.
- Cr(III) is soft metal ion whereas N is hard.
- Cr(III) is hard metal ion and N is also hard.

No, the answer is incorrect.
Score: 0

Accepted Answers:
Cr(III) is hard metal ion and N is also hard.

9) How a cis and trans isomers can be chemically distinguished?

- reacting with a monodentate ligand
- reacting with a ambidentate ligand
- reacting with a bidentate ligand
- none

No, the answer is incorrect.
Score: 0

Accepted Answers:
Cr(III) is hard metal ion and N is also hard.
No, the answer is incorrect.
Score: 0
Accepted Answers:
reacting with a bidentate ligand

$K_{\text{inter}}$ for $[\text{Ag(NO}_2)_2]^{-}$ and $[\text{Ag(CN)}_2]^{-}$ are $1.3 \times 10^{-3}$ and $8 \times 10^{-21}$ respectively. If $C_1$ and $C_2$ be the concentrations of $\text{Ag}^+$ ion in equimolar solutions of these two complexes respectively, then $C_1$ and $C_2$ will be related as

- $C_1 < C_2$
- $C_1 = C_2$
- $C_1 > C_2$
- they can not relate

No, the answer is incorrect.
Score: 0
Accepted Answers:
$C_1 > C_2$

$11] \text{Co(NH}_3)_4\text{CO}_3]$ on reaction with $\text{HBr}$ gives a green compound $Y$. Dose reactant and product both show optical activity?

- both will be optically active
- both will be optically inactive
- reactant is optically active but product is inactive
- reactant is optically inactive but product is active

No, the answer is incorrect.
Score: 0
Accepted Answers:
both will be optically inactive

$12] \text{The stability of [Ni(en)]}^{2+}$ is much greater than that of $\text{Ni(NH}_3)_6]^{2+}$, although both contains Ni-N bonds. This happens because

- $[\text{Ni(en)}_3]^{2+}$ is a perfect octahedron whereas $[\text{Ni(NH}_3)_6]^{2+}$ is a distorted octahedron
- $[\text{Ni(en)}_3]^{2+}$ will show chelate effect due to bidentate nature of ethylenediamine(en).
- Ni-N bond distance of $[\text{Ni(en)}_3]^{2+}$ complex is shorter than $[\text{Ni(NH}_3)_6]^{2+}$
- Ni($\text{NH}_3)_6]^{2+}$ complex will show less orbital overlap than $[\text{Ni(en)}_3]^{2+}$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$[\text{Ni(en)}_3]^{2+}$ will show chelate effect due to bidentate nature of ethylenediamine(en).