

Report Sheet:

Qualitative Analysis

CHEM 111



Department of Chemistry

LAST NAME: _____ SEC # _____ LOCKER # _____

FIRST NAME: _____ DATE: _____

- Any step not performed must be left blank.
- Record observations as you see them.
- Summarize your Results on the back of this Report Sheet (page 4).

Please answer these two questions:

• Session (circle choice): #1 #2

• Colour of Unknown Soln: _____

GROUP SEPARATION

total marks for this section:

STEP #	I performed this step. (☑)	A PPT FORMED ☑ if "YES"	The COLOUR of the PPT was (describe): write "NA" if no ppt	The ppt obtained in this step indicates the following Group is likely present: (circle one choice <u>IF</u> you did this step)
1	☐	☐		I II III not applicable
7	☐	☐		I II III not applicable
11	☐	☐		I II III not applicable

GROUP I ANALYSIS

total marks for this section:

STEP #	I performed this step. (☑)	A ppt was still present at the <u>END</u> of this step. ☑ if "YES"	The COLOUR of the PPT was (describe): write "NA" if no ppt	My results at this step indicate that: (circle either ' <u>absent</u> ' or ' <u>present</u> ' if you did this step)
12	☐	☐		both Hg_2^{2+} &/or Ag^+ are likely: absent or present
13	☐	☐		Hg_2^{2+} is: absent or present
14	☐	☐		Ag^+ is: absent or present
15	☐	☐		Pb^{2+} is: absent or present

Cation(s) found (if any) in Group I: _____

GROUP IIA/IIB SEPARATION			total marks for this section:	
STEP #	I performed this step. (☒)	All of the ppt fully dissolved by the <u>END</u> of this step. ☒ if "YES" Ignore sulphur ppt.	The COLOUR of any remaining PPT was (describe): write "NA" if no ppt	My results at this step indicate that Group IIA "basic sulphides" is: (circle one choice <u>IF</u> you did this step)
17	☐	☐		absent or present

GROUP IIA ANALYSIS			total marks for this section:	
STEP #	I performed this step. (☒)	I observed in this step that: ☒ if "YES"	My results at this step indicate that: (circle either ' <u>absent</u> ' or ' <u>present</u> ' if you did this step)	
18	☐	- all ppt dissolved ☐ - some ppt remained ☐	Hg ²⁺ is probably: absent or present	
19	☐	a <u>white/grey ppt</u> : ☐ did or ☐ did not form at the end of the step.	Hg ²⁺ is: absent or present	
21	☐	A <u>white ppt</u> : ☐ did or ☐ did not form at the end of the step.	Bi ³⁺ and/or Sn ²⁺ are likely: absent or present	
22 1 st half	☐	a <u>white ppt</u> : ☐ did or ☐ did not form in distilled H ₂ O at the end.	Bi ³⁺ is: absent or present	
22 2 nd half	☐	a <u>white ppt</u> : ☐ did or ☐ did not form with NaOH, and then if required, the white ppt: ☐ did or ☐ did not mostly dissolve in excess NaOH	Sn ²⁺ is: absent or present	
23	☐	- the soln was originally blue ☐ - a <u>red/brown ppt</u>: ☐ did or ☐ did not form at the end of the step.	Cu ²⁺ is: absent or present	
24	☐	a <u>yellow ppt</u> : ☐ did or ☐ did not form at the end of the step.	Cd ²⁺ is: absent or present	

Cation(s) found (if any) in Group IIA: _____

GROUP IIB ANALYSIS			total marks for this section:	
STEP #	I performed this step. (☑)	A ppt was present at the <u>END</u> of this step. ☑ if "YES"	The COLOUR of the PPT was (describe): write "NA" if no ppt	My results at this step indicate that: (circle either ' <u>absent</u> ' or ' <u>present</u> ' if you did this step)
25	☐	☐		A Group IIB ppt is likely: absent or present
26	☐	☐	• brilliant yellow ☐ • other colour ☐ • NA ☐	As³⁺ is: absent or present
28	☐	☐		Sb³⁺ is: absent or present
29	☐	☐		Sn⁴⁺ is: absent or present

Cation(s) found (if any) in Group IIB: _____

GROUP III ANALYSIS			total marks for this section:	
STEP #	I performed this step. (☑)	A ppt was present at the <u>END</u> of this step. ☑ if "YES"	The COLOUR of the PPT was (describe): write "NA" if no ppt	My results at this step indicate that: (circle either ' <u>absent</u> ' or ' <u>present</u> ' if you did this step)
30	☐	☐		Fe³⁺ is probably: absent or present
31	☐	☐		Fe³⁺ is: absent or present
33 (1/4 soln)	☐	☐		Cr³⁺ is: absent or present
34 (3/4 soln)	☐	when slightly basic: ☐	gelatinous ☐ colour: _____	Al³⁺ is: absent or present

Cation(s) found (if any) in Group III: _____

<u>Summary of Results</u>	<i>Student Completes this Section</i>		
Cations Found by Student:			

<u>Instructor's Assessment</u>			
Cations Actually Present:			
Results Mark *	(sum of each section's mark; max = 6):		
Report Sheet & Lab Practice Mark	(max = 2):		
Overall Mark for this Session	(max = 8):		

* note that the maximum marks available for each section differ from student to student, depending on which unknown was being analyzed, but the overall results mark sums to 6 for all of the unknowns.