Date ..... Name ..... Group .....

Lab report form for the practical lesson on biochemistry

Topic: **Spectrophotometry**

---

1. Spectrophotometric estimation of molar concentration of food dyes

Principle:
(Briefly explain the core principle of photometry, including the terms transmittance, absorbance, and Lambert-Beer law)

1.1. Absorption maximum of stock solution of food dye (demonstration)

Results:

1.2. Estimation of molar concentration of food dyes in given sample

Results

Dye: Sample No: Sample absorbance:

Test tube No.	**Deionized water** (ml)	**Solution of food dye** (ml)	Note:	**Molar concentration** (µmol/1)	**Absorbance** A
1		2	*Stock solution*		
2	1	1	*From tube 1*		
3	1	1	*From tube 2*		
4	1	1	*From tube 3*		
5	1	1	*From tube 4*		
6	1	1	*From tube 5*		

Evaluation

A) Calibration graph method:

Plot the measured standard absorbances against standard concentrations, use the graph for reading concentration of the unknown sample, sign it and attach to this report.

c_{sample} =

B) Calibration factor method:

f_1

f_2

f_3

f_4

f_5

f = **c_{sample} =**

C) Standard sample method:

Standard: A_{st} = c_{st} = **Calculation:**

Sample: A_{sa} = **c_{sample} =**

Conclusion:

(Summarize the results and compare precision of all three methods)

2. Preparation of coordination compounds and measurement of their spectral curves in the visible spectral range

2.1. Complexes of Cu^{2+}

Equations:

Results:

Compound	Color of substance	Color of solution	Measured λ of absorbed light
$CuSO_4$			
	x		
	x		

2.2. Complexes of Fe^{3+}

Equations:

Results:

Compound	Color of substance	Color of solution	Measured λ of absorbed light
$FeCl_3$			
	x		
	x		