

Lab 6 - Rainbow in a Test Tube

6 liquids

- ° 3.2 M CaCl_2
- ° dichlorobenzene
- ° Ethyl acetate/dichlorobenzene
- ° 5.5 M CaCl_2
- ° ethyl acetate
- ° diwater

EXP 2 RESULTS

liquid	polarity	Final ORDER
3DCB	Non Polar	6 NP 3EAC (Purple)
2HEA	Polar	5 P 1DIW (Blue)
1DIW	Polar	4 NP 1FIF (Green)
1FIF	Non-Polar	3 P 3LIG (Yellow)
3EAC	Non-Polar	2 NP 3DCB (Orange)
3LIG	Polar	1 P 2HEA (Red)

EXP 1 we already know vols of each liquid

To determine Density

liquid	mass	Volume	Density (avg)
3EAC	.746	1	.737
	1.457	2	
3LIG	1.1	1	1.11
	2.35	2.1	
1DIW	.883	1	.885
	1.774	2	
3DCB	1.389	1.2	1.26
	1.4	1	
1FIF	.994	1	.945
	1.891	2	
2HEA	1.237	1	1.24
	2.479	2	

EXP 3: Polarity of Dyes

Red - Polar

Orange - Non Polar

Yellow - Polar

Green - Non Polar

Blue - Polar

Purple - Non Polar

RQ 1: The relative densities of each liquid are outlined in EXP #1

RQ 2: Polarity determines miscibility

RQ 4: The polarities of each liquid are outlined in EXP 2.

TO Determine Polarity we combined

Red (Polar) with each. If it mixed, it is miscible \Rightarrow liquid is Polar

The converse of the above

implication holds for Non-Polar liquids

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