Title: Solubility
Robert Steele
Grap 6
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Purpose: To determine whether a variety of organic compounds are soluble or insoluble in varias solvents

Table of Chemical Data

Name	MW	MP	BP	d	safety
Biphenyl	154.21	71	255	0.992	environmental Hazard, irritat
Hexane	86.18	-95	69	0.654	Flammable, environmental Hazard, Health Hazard, Irritant
Methanol	32.04	-98	64.7	0.79	Flammable, Toxic, Health Hazard
1-octanol	130.23	-16	195	0.824	Irritant
ethanol	46.07	-90	77	0.8	Flammable, Toxic, Health Hazard, Irritant
diethyl ether	74.12	-116	34.6	0.706	Health Hazard, Flammable, Irritant
Methyene Chloride	84.93	-97	39	1.33	Health Hazard, Irritant
Dichloromethane	84.93	-97	39	1.33	Health Hazard, Irritant
Sodium Chloride 1M	58.44	0	100	1.04	
Hydrochloric acid	36.46	-74	81.5	1.2	Corrosive, Irritant

Predictions: As mentioned in the introduction the solubility of these compounds will likely relate with polarity. Therefore compounds like hexane and biphenyl must be miscible with H_2O, while the alcohols and charged organic molecules will.

Procedure:

A: 40mg biphenyl in 2 test tubes
add 1mL of water to 1 and 1mL
of hexane to other

repeat with Succinic acid
biphenyl
Succinic Acid
B: add 1mL of H_2O and Hexane
to separate test tubes. add methanol
of 1-octanol and shake
Methanol
1-octanol
C: Make predictions for each
pair then add 1mL of both
and observe

H_2O + ethanol
H_2O + diethyl ether
H_2O + Methylene chloride
H_2O + hexane
hexane + Methylene chloride

D: 30 mg of benzoic acid in ?
add water, NaOH, DCM
then add HCl to NaOH