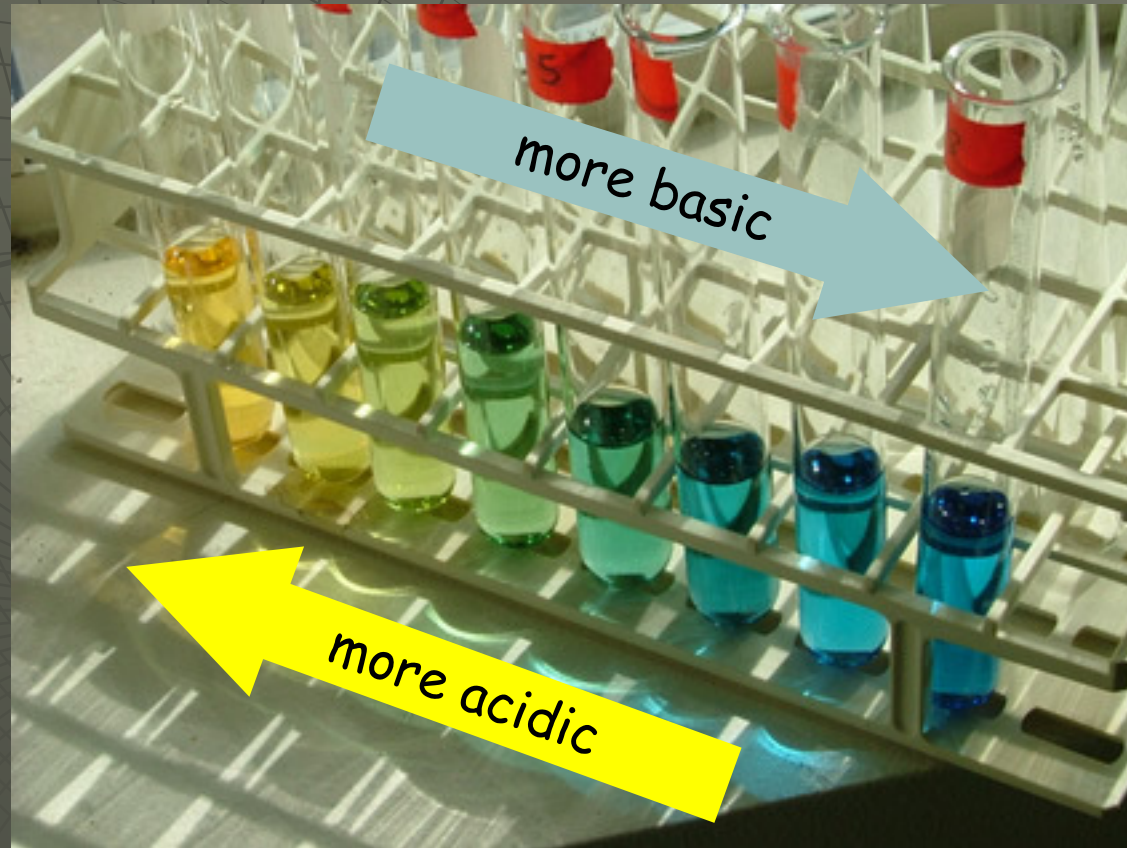
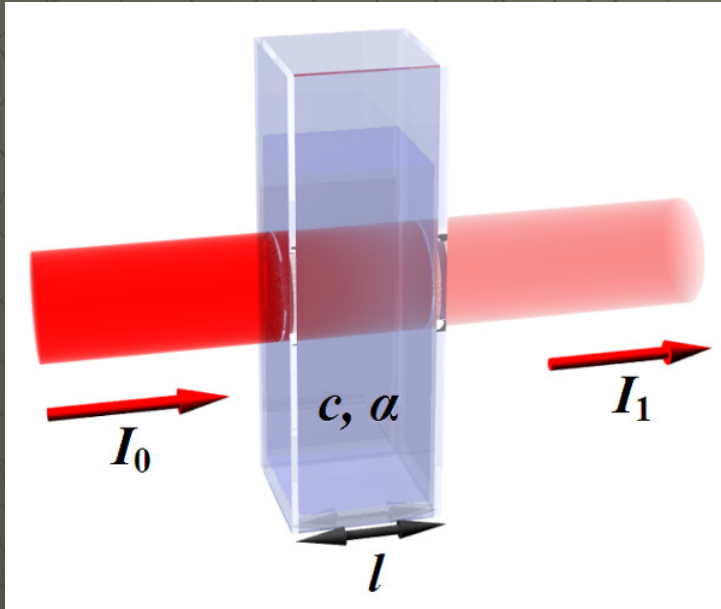


# BCG color



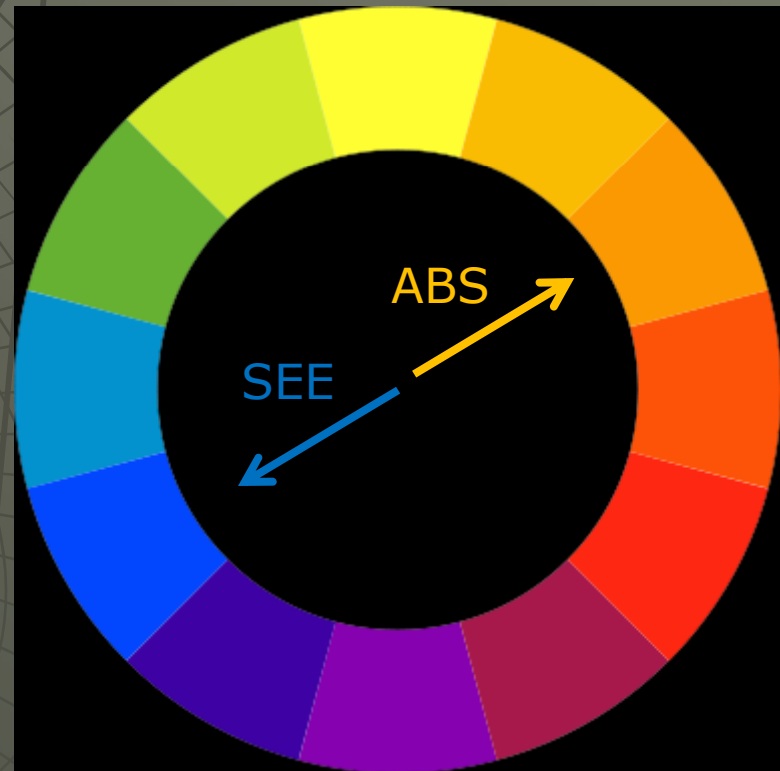
	$\lambda$ (nm)	$E = h\nu$ (kcal/mol)	typical bond
Red	630-700	41-45	F—F
Orange	590-630	45-48	Br—Br
Yellow	560-590	48-51	
Green	490-560	51-58	C—I
Blue	450-490	58-63	
Violet	400-450	63-72	C=C pi

# Absorbed $\neq$ Perceived

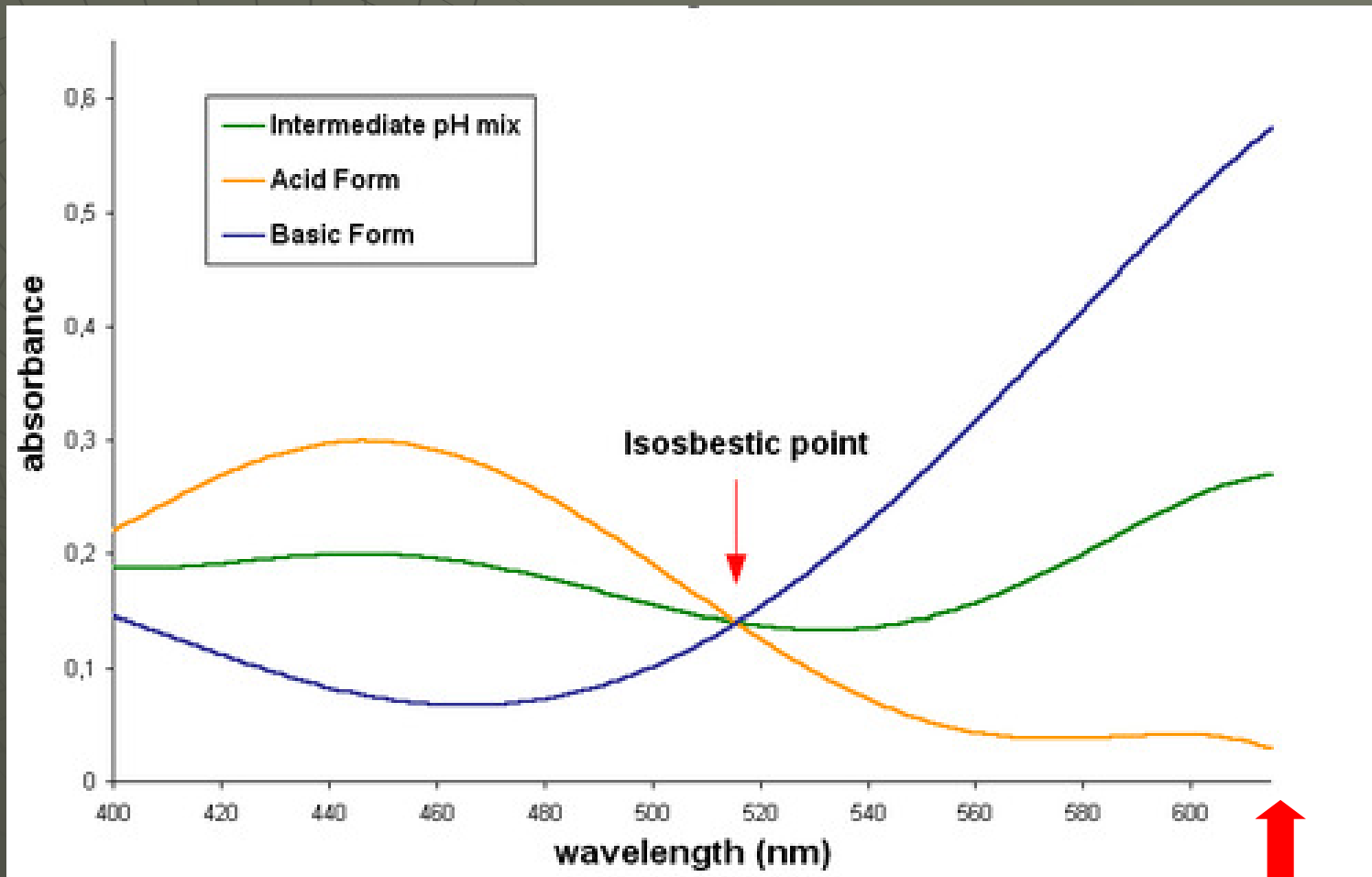


$$A = -\log (I_1/I_0)$$

$$I_1/I_0 = 10^{-A}$$

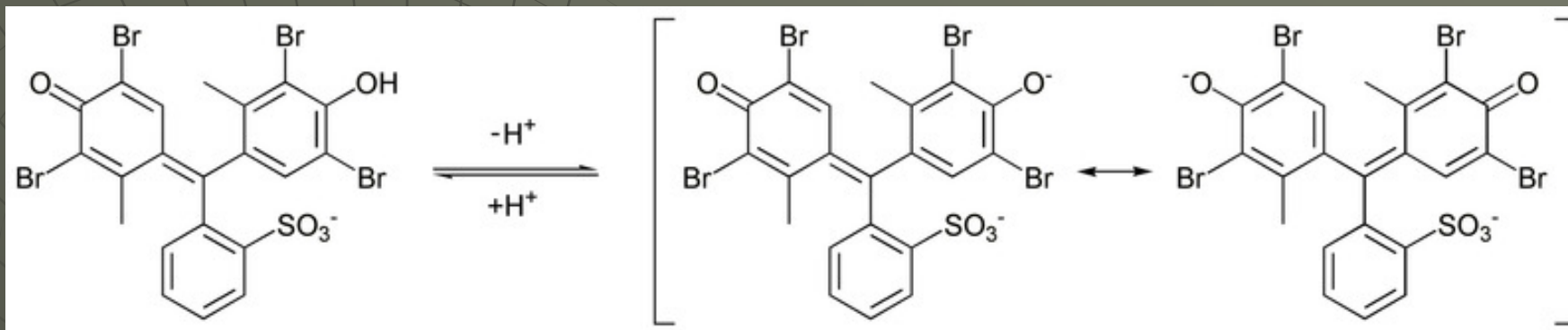


# pH-dependent spectrum



Measure Abs here

# Chemistry & Color



YELLOW

absorbs  
hi E photons  
(max @ 450 nm)

BLUE

absorbs  
low E photons  
(max @ 620 nm)

Photon E changes electron location & motion. How can we explain this?