

c1) poll

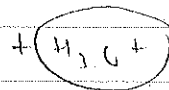
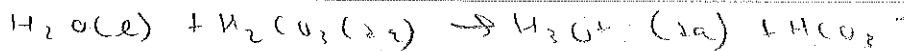
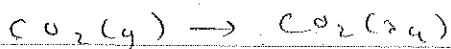
✓ c2) At pH = 10, acid will be deprotonated

$$\frac{pK_a}{4} \quad K_1 = 7.4 \times 10^{-4}$$

$$5 \quad K_2 = 1.7 \times 10^{-5}$$

$$7 \quad K_3 = 4.0 \times 10^{-7}$$

$$pH > pK_a$$

2 equivalence points = diprotic H₂APhenolphthaleinprotonated
(colorless)deprotonated
(pink)Add OH⁻H₃O⁺ goes
down and
shifts rightIf this is nonspontaneous, how does the
indicator ever change color. $K_2 < 1$ What happens to system at eq when you change
environment?more CO₂, more acidicIf $pH < pK_a$... acid/base will be protonatedc3) pH of 1.0 M Amine is 9.3