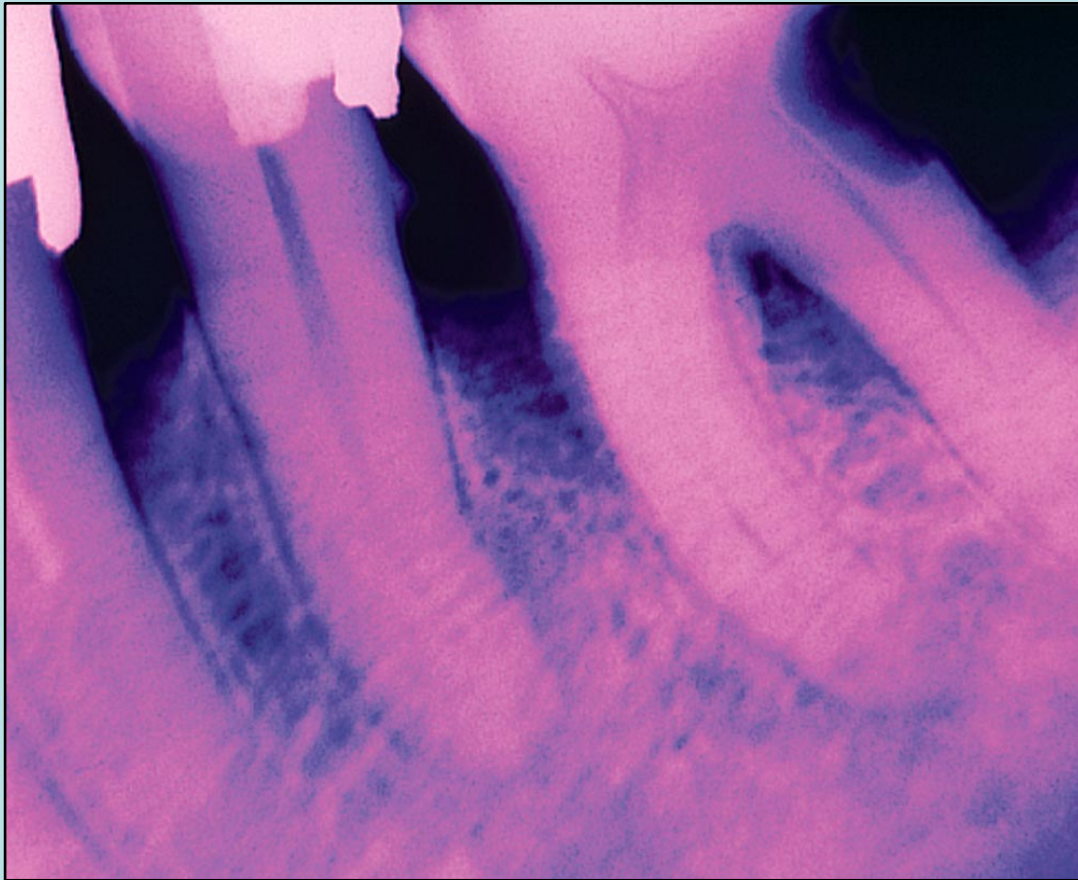
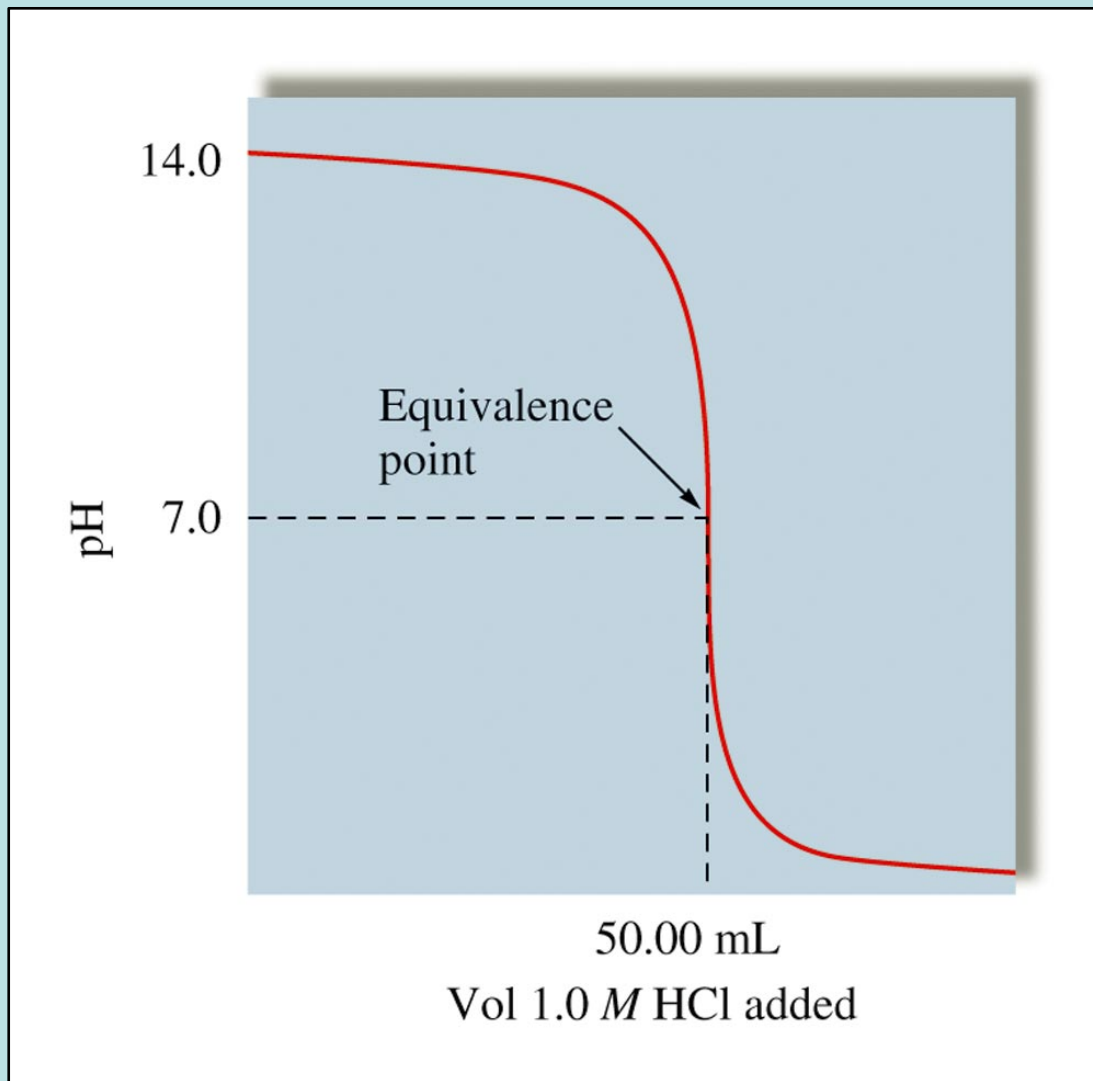


# Chapter 15 – Applications of Equilibrium



# Equivalence – high pH $\rightarrow$ low pH



# Indicators

Indicator	pH	0	1	2	3	4	5	6	7	8	9	10	11	12	
Methyl violet	Yellow														Violet
Thymol blue	Red					Yellow (acid range)								Blue (base range)	
Methyl orange	Red					Yellow-orange									
Bromocresol green	Yellow														Blue
Methyl red	Red					Yellow									
Chlorphenol red	Yellow					Red									
Bromthymol blue	Yellow														Blue
Phenol red	Yellow					Red									
Phenolphthalein	Colorless					Red									
Thymolphthalein	Colorless					Blue									
Alizarin yellow	Yellow														Violet

**Table 15.4** from *Chemistry by McMurray & Fay*

# Equivalence – low pH $\rightarrow$ high pH

