

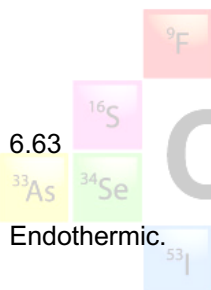
AP WORKSHEET 08ABCDEFGHIJ: ANSWERS

1.
 - (a) 0.699
 - (b) 12
 - (c) 2.6
2. 4.6
3. $K_a = 2.51 \times 10^{-5}$, $pK_a = 4.6$
4.
 - (a) Approximately 9, Phenolphthalein
 - (b) Weak, equivalence point above 7
 - (c) 20 mL
 - (d) $\text{NaOH} + \text{HA} \rightarrow \text{NaA} + \text{H}_2\text{O}$, 0.125 M

5.

(a) 6.63

(b) Endothermic.



ADRIAN DINGLE'S
Chemistry Pages

At the higher temperature (323 K as opposed to 298 K), the pH goes down, the degree of ionization has therefore increased (more H^+ ions). This means heat is essentially a reactant that shifts the equilibrium to the product side at the higher temperature

6.

- (a) It acts as a base since it accepts H^+
- (b) The reaction is reversible, meaning the base in (a) is weak (not completely dissociated)
- (c) Water is an acid, it donates H^+
- (d) (Either) H_2O and OH^- (or) $\text{C}_6\text{H}_5\text{NH}_2$ and $\text{C}_6\text{H}_5\text{NH}_3^+$