Joseph Specht

Homework 4

1a) ? = U-239

b) ? = C-14

c) ? = Rn-222

d) ? = U-234

2) 931.5 MeV

3a) 7.976 MeV

b) 15.664 MeV

c) 7.751 MeV

d) 4.143 MeV

e) These answers indicate that the extra neutron makes the isotope more unstable than if it had 1 less neutron.

4a) 3.27 MeV released

b) 17.56 MeV released

5) Reactions 1, 4, and 6 are exothermic.

Reactions 2 and 5 are endothermic

Reaction 3 is neither

.1) q1 = 6.586 MeV

.2) q2 = -1.85 MeV

.3) q3 = 0 MeV

.4) q4 = 0.559 MeV

.5) q5 = -12.083 MeV

.6) q6 = 2.125 MeV

6) Reactions 1 and 5 are exothermic

Reactions 3 and 4 are endothermic

Reaction 2 is neither

.1) q1 = 7.250 MeV

.2) q2 = 0 MeV

.3) q3 = -2.726 MeV

.4) q4 = -2.342 MeV

.5) q5 = 4.783 MeV

7a) q = 1.820 MeV (B+ decay)

b) q = 4.9165 MeV (B-­ decay)