$$E_{aX} + \left(\Delta M_a + \Delta M_X\right) = E_{bY} + \left(\Delta M_b + \Delta M_Y\right)$$

$$Q = \left(\Delta M_a + \Delta M_X\right) - \left(\Delta M_b + \Delta M_Y\right)$$

(1) $Q = \left(\Delta M_{^3\mathrm{He}} + \Delta M_{^3\mathrm{He}}\right) - \left(\Delta M_{2p} + \Delta M_{^4\mathrm{He}}\right) = 14.93134 \times 2 - 7.28899 \times 2 - 2.42475 = 12.85995\mathrm{MeV}$

(2) $Q = \left(\Delta M_p + \Delta M_{^{15}N}\right) - \left(\Delta M_\alpha + \Delta M_{^{12}C}\right) = 7.28899 + 0.10040 - 2.42475 - 0 = 4.96464\mathrm{MeV}$

(3) $Q = \left(\Delta M_p + \Delta M_{^{17}O}\right) - \left(\Delta M_\alpha + \Delta M_{^{14}N}\right) = 7.28899 - 0.80770 - 2.42475 - 2.86370 = 1.19284\mathrm{MeV}$

(4) $Q = \left(\Delta M_p + \Delta M_{^{19}F}\right) - \left(\Delta M_\alpha + \Delta M_{^{16}O}\right) = 7.28899 + 3.33270 - 2.42475 + 4.73655 = 12.93349\mathrm{MeV}$