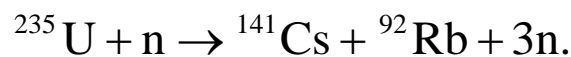


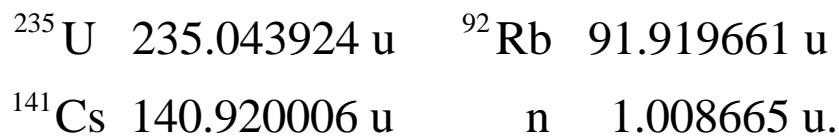
864.

Problem 55.13 (RHK)

We have to calculate the energy released in the fission reaction



Needed atomic masses are



Solution:



The energy released in the fission reaction



will be

$$\begin{aligned} Q &= \left(m_{{}^{235}\text{U}} - m_{{}^{141}\text{Cs}} - m_{{}^{92}\text{Rb}} - 2m_{\text{n}} \right) c^2 \\ &= (235.043924 - 140.920006 - 91.919661 - 2 \times 1.008665) \text{uc}^2 \\ &= 0.186927 \text{uc}^2 \\ &= 0.186927 \times 931.5 \text{ MeV} = 174.1 \text{ MeV}. \end{aligned}$$