

- Determine the energy threshold and the coulomb barrier for
 - $p + {}^{18}\text{O} \rightarrow n + {}^{18}\text{F}$
 - $n + {}^{131}\text{Xe} \rightarrow p + {}^{131}\text{I}$

- Find nuclear reactions that allow to produce the particles in the table and the activities that can be produced at the maximum x-section for 100mA of protons or 10^{14} thermal neutrons/s (A_{max}), assuming a thickness of 1 cm

Isotope	Dec	Production reaction	Production threshold (MeV)	Production σ_{max} (barn)
131I	beta-			
90Y	Beta-			
188Re	Beta-			
11C	Beta+			
18F	Beta+			