

Abstract Submitted  
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**Experimental study of cross-sections for some medical radioisotopes production via proton induced nuclear reactions on natMo up to 40 MeV** A.A. ALHARBI<sup>1</sup>, M. MCCLESKEY, G. TABACARU, B. ROEDER, A. BANU, A. SPIRIDON, E. SIMMONS, L. TRACHE, R.E. TRIBBLE, V. GOLDBERG, Cyclotron Institute, Texas A&M University, College Station, TX 77843-3366, USA — The activation technique has been used to measure the excitation functions of the  $^{nat}\text{Mo}(\text{p},\text{xn})$ ,  $^{nat}\text{Mo}(\text{p},\text{pxn})$  and  $^{nat}\text{Mo}(\text{p},\alpha\text{xn})$  nuclear reactions up to 40 MeV using the proton beam from the K500 superconducting cyclotron of the Texas A&M Cyclotron Institute. A stack was made from several groups of targets:  $^{nat}\text{Mo}$ ,  $^{nat}\text{Al}$  and  $^{nat}\text{Cu}$ , with the Al and Cu as monitor foils to measure the excitation functions of the well known cross-sections monitor reactions  $^{27}\text{Al}(\text{p},\text{x})^{24}\text{Na}$  and  $^{nat}\text{Cu}(\text{p},\text{x})^{62}\text{Zn}$  simultaneously with the reactions induced on the targets. The determined excitation functions were compared with the available previous published research and with the ALICE-IPPE pre-compound hybrid model simulated calculations. The integral yield ( $\text{MBq}.\mu\text{A}^{-1}.\text{h}^{-1}$ ) of the  $^{nat}\text{Mo}(\text{p},\text{X})$  nuclear reactions deduced using the excitation functions and the stopping power of  $^{nat}\text{Mo}$ .

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