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## Study of the Production of Mo and Tc Medical Radioisotopes Via Proton Induced Nuclear Reaction on natMo.

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99mTc radioisotope is a very important medical radioisotope for diagnostic tests. In this work an alternative root of producing this isotope, either directly or through the generator 99Mo (99mTc), namely using cyclotrons, is introduced and discussed. The excitation functions for the different proton-induced nuclear reactions on natMo target are measured and compared with some previously measured data. This study aims to release some contradictions between the existing data, and to give a reliable data set for the production of 99mTc and some other isotopes of importance in nuclear medicine beside some impurities. Some monitoring reactions on Al And Cu targets are also measured and compared with the recommended IAEA data sets, in order to give high degree of consistency to our results. The present excitation functions confirms some previously measured sets, while contradicts with others. Therefore, further experimintal studies are needed to obtain a recommended cross-section values for the production of 99Mo, 94gTc, 95gTc and 99mTc via proton induced reactions. Theoretical code calculations using TALYS code are performed and show a good consistency with the measured cross section values. The code calculations can be used for cross section estimations, when no enough experimental data are existing. Furthermore, the integral or thick target yields are estimated based on the measured excitation functions for all the investigated reactions.

Primary author: Dr ALHARBI, Abeer (Princess Nora University, Saudi Arabia)
Presenter: Dr ALHARBI, Abeer (Princess Nora University, Saudi Arabia)
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