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Measurement of excitation functions for (d,x) reactions on natural molybdenum

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Cross sections for deuteron induced reactions on natural molybdenum leading to 93Tc, 93mTc, 94Tc, 94mTc, 95Tc, 95mTc, 96Tc, 96mTc, 99mTc, 99Mo, 92mNb, 95Nb and 89Zr were measured in deuteron energy range 9.0–19.6 MeV on the cyclotron U-120M of the Nuclear Physics Institute AS CR. Special attention was paid to excitation function for formation of 95mTc, which is used as a tracer for determining 99Tc in environmental samples, and to excitation functions and thick target yields for formation of 99mTc and 99Mo, the most widespread radionuclide generator pair in nuclear medicine. If appropriate, obtained data are compared with the heretofore published cross sections.

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