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Recent Results from Target Development for RIB – Refractory Elements H.K. CARTER, A. KRONENBERG, E.H. SPEJEWSKI, Oak Ridge Associated Universities, D.W. STRACENER, Oak Ridge National Laboratory — Development of ion beams of short-lived isotopes is crucial for modern nuclear structure and nuclear astrophysics. The Holifield Radioactive Ion Beam Facility at Oak Ridge National Laboratory uses the ISOL (Isotope Separator Online) technique to provide radioactive ion beams. So far, refractory elements are not accessible with this technique. The code HSC-5 [1], with an extensive thermochemical database predicts possible chemical sidebands which may be transported within the target-ion source. We are working on the release of Vanadium, Zirconium, and Molybdenum isotopes in molecular form for example as oxides, fluorides, chlorides, sulfides. A number of new targets have been fabricated and tested for use and recent results from off-line and on-line tests will be presented. This research was sponsored by the NNSA under Stewardship Science Academic Alliance program through DOE Cooperative Agreement # DE-FC03-3NA00143.

[1] HSC Chemistry for Windows – Chemical Reaction and Equilibrium Software with extensive Thermochemical Database, Outokumpu Research Oy, Pori, Finland

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