

In recent years, the extraction using crown ethers has reached a resounding success in different scientific and technical fields. In this work, the authors report the results of the main steps of extraction and determination (proportioning) of the tungsten ion (VI) using a chloroformed solution of crown ether. The dibenzo-18-C-6(2,3,11,12-dibenzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene according to the IUPAC systematic nomenclature). The identification and quantification of W(VI) using the absorption spectrum, the influence of the necessary reagents, the needed acidity level for complete extraction and complexation of W (VI) using a crown ether, and the influence of multivalent metal ions were examined, considering that the sensitivity, selectivity, and detection limits have been determined. This system obeys Beer's law in the range of 0.18–18.3 lgcm³ of tungsten with a molar absorption of 1.6 10⁴ mol⁻¹ cm⁻¹ at 415nm and the detection, quantification limits were, respectively, equal to 0.7–1.8 lgcm³. The developed method was applied for the extraction of W(VI) in the high speed steel (HSS): HS2–9-1–8 containing 2% W, 9% Mo, 1% V, and 8% C