

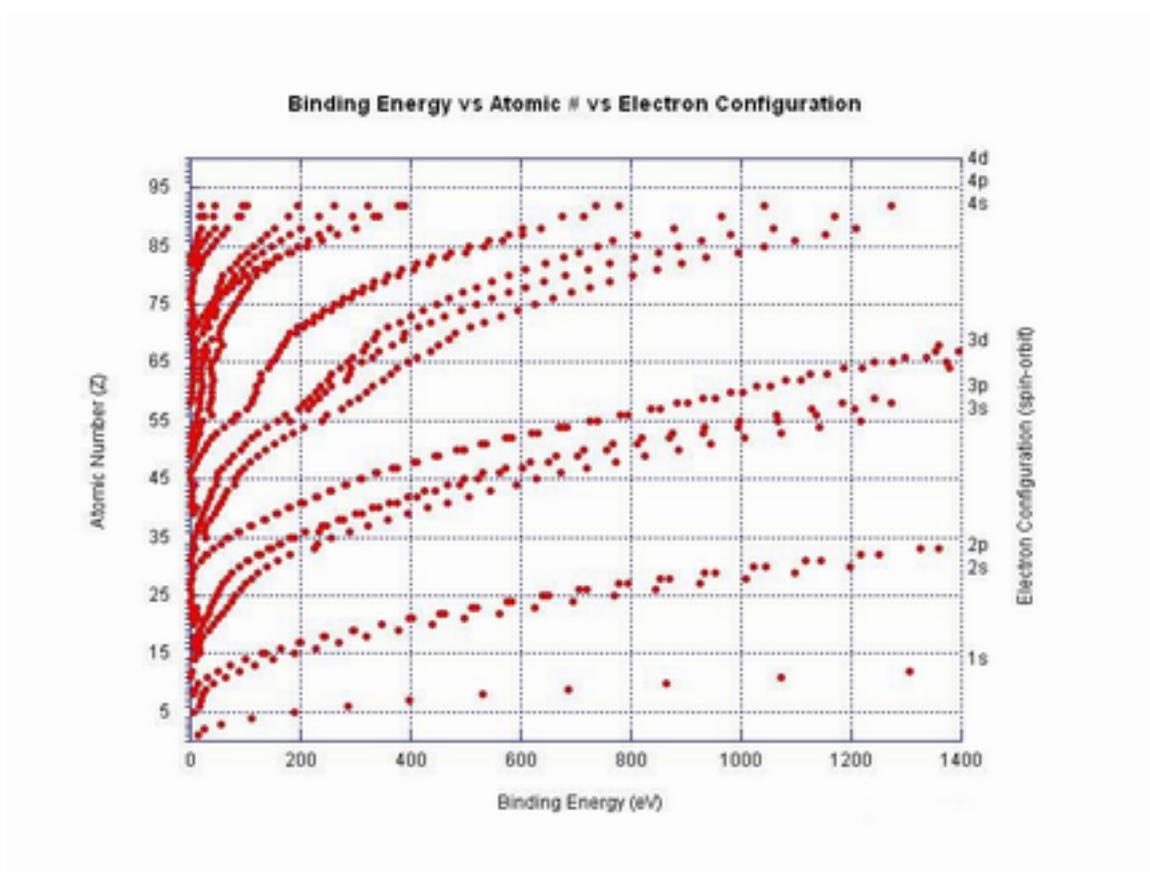
Answer on Question #39412, Chemistry, Inorganic Chemistry

Question

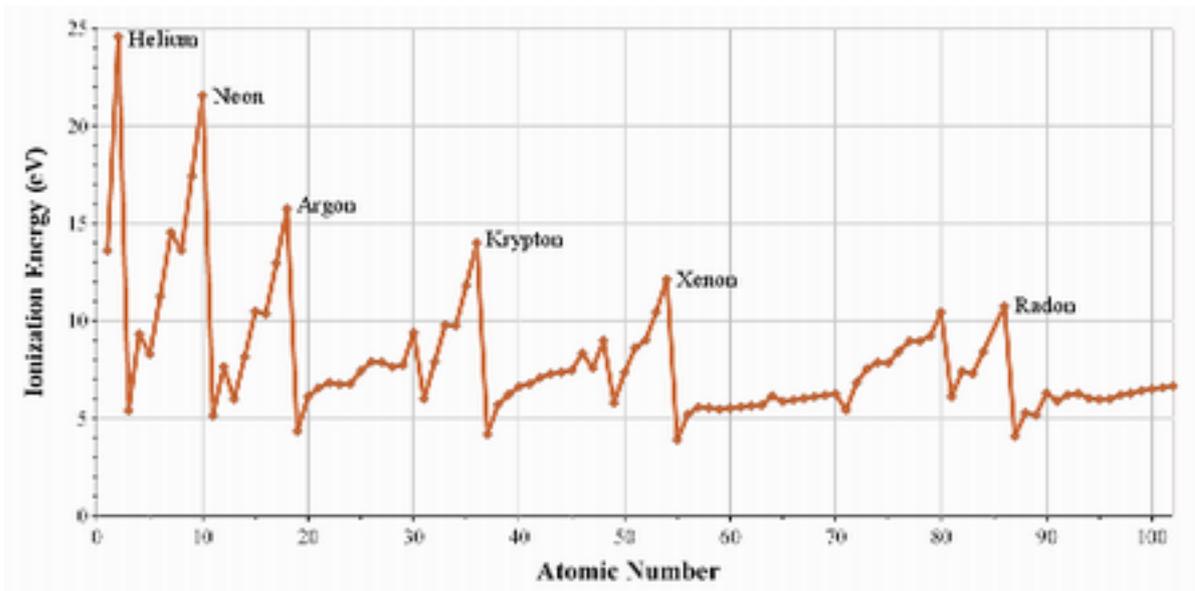
why binding energy of vanadium is highest instead of chromium which has more unpaired electrons

Answer

This statement is simply not true. The experimentally measured binding energy of chromium is higher than that of vanadium. Please consult this famous graph that is present in every relevant textbook, see Z=23 (V) and Z=24 (Cr):



For the 3d electrons, since their binding energy is very low in comparison with others, a separate graph for the first ionization potential (=binding energy of the electron with highest energy, that is 3d for V and Cr) can help:



Again, see $Z=23$ and $Z=24$.