

Characterization of Materials 635:309

NAME _____ Dr. Garofalini

See due date on Website

In the table at right, the top row gives the element that is the emitter (source) of the $K\alpha$ X-rays at the energy given. The lower rows give those same elements and their mass absorption coefficients μ_m of

Emitter $h\nu \rightarrow$	V 4952 eV	Cr 5415 eV	Mn 5899 eV	Fe 6403 eV	Mo 17552
Absorber	μ_m	μ_m	μ_m	μ_m	
V	94.6	73.8	498.4	403.4	25.24
Cr	111.1	86.7	68.4	454.8	29.25
Mn	125	97.6	76.9	61.3	31.86
Fe	145	113	89	71	37.74

the $K\alpha$ x-rays from the top row emitters. (eg. V has a mass absorbtion coef. of 94.6 of its own V x-rays, 73.8 of Cr x-rays, etc). Using only the information given in this table and using Mo as the emitter **source** in an XRF analysis of a 50-50 mole % FeCr alloy in a sample, which fluorescence peak would be larger, Fe or Cr? (NOTE, it takes more than one column to obtain a thoughtful and **accurate** answer.) Give the **accurate** answer below and a **justification** for your answer.

Which has the higher peak in this XRF analysis: ANS: _____