

VA Application Note No. V- 47

Title:	Manganese, iron and molybdenum in vitamin tablets
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Summary:	Determination of manganese, iron and molybdenum (after digestion) in fabrication powder of vitamin tablets
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Sample:	Powder for vitamin tablets
Sample Preparation:	Wet digestion (H_2SO_4 / H_2O_2)

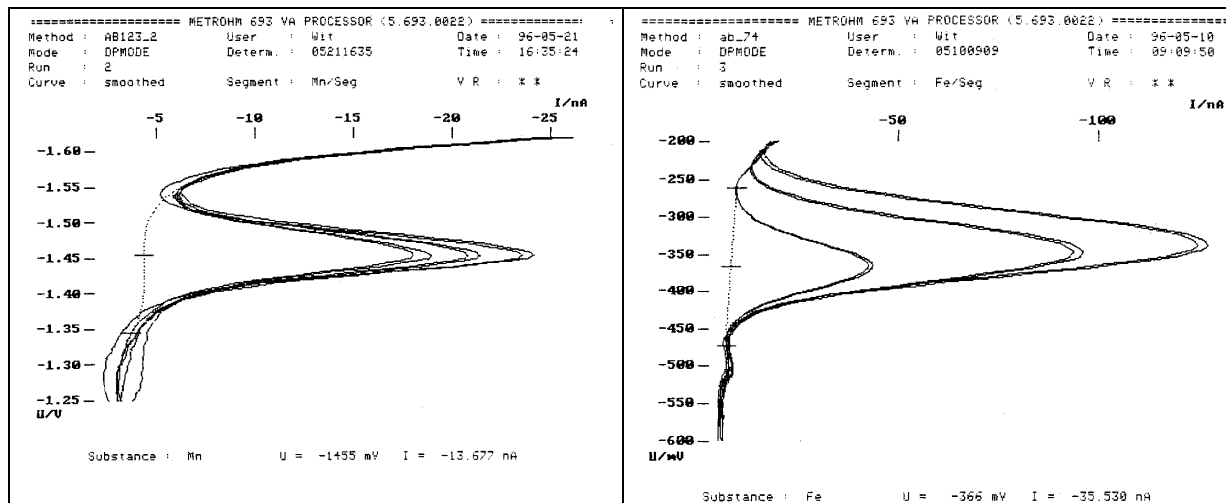
Manganese:	
Electrolyte:	NH_4Cl buffer, borate buffer and Zn standard
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPASV (-75 mV), HMDE $U_{\text{meas}} = -1700$ mV (90s), $U_{\text{start}} = -1620$ mV, $U_{\text{end}} = -1250$ mV $E_p(\text{Mn}) = -1430$ mV

Iron:	
Electrolyte:	Pipes buffer and Catechol pH = 7.0 with NH_3
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPCSV (-50 mV), HMDE $U_{\text{meas}} = -100$ mV (60s), $U_{\text{start}} = -100$ mV, $U_{\text{end}} = -600$ mV $E_p(\text{Fe}) = -310$ mV

Molybdenum:	
Electrolyte:	8-Hydroxy-7-iodo-quinoline-5-sulfonic acid in H_2SO_4 + KCl pH = 6.5
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPPOL (-50 mV), SMDE $U_{\text{start}} = -680$ mV, $U_{\text{end}} = -1180$ mV $E_p(\text{Mo}) = -1040$ mV

Results:	Mn µg/g	Fe mg/g	Mo µg/g
	27.1	4.4	12.1

Determination of manganese and iron



Determination of molybdenum

