

VA Application Note No. V- 33

Title:	Zinc, lead, copper and iron in sugar
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Summary:	Determination of Zn, Pb, Cu and Fe in sugar after wet digestion.
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Sample:	Crystal sugar sample
Sample Preparation:	Wet digestion with H ₂ SO ₄ and H ₂ O ₂

Zinc, Lead and Copper:

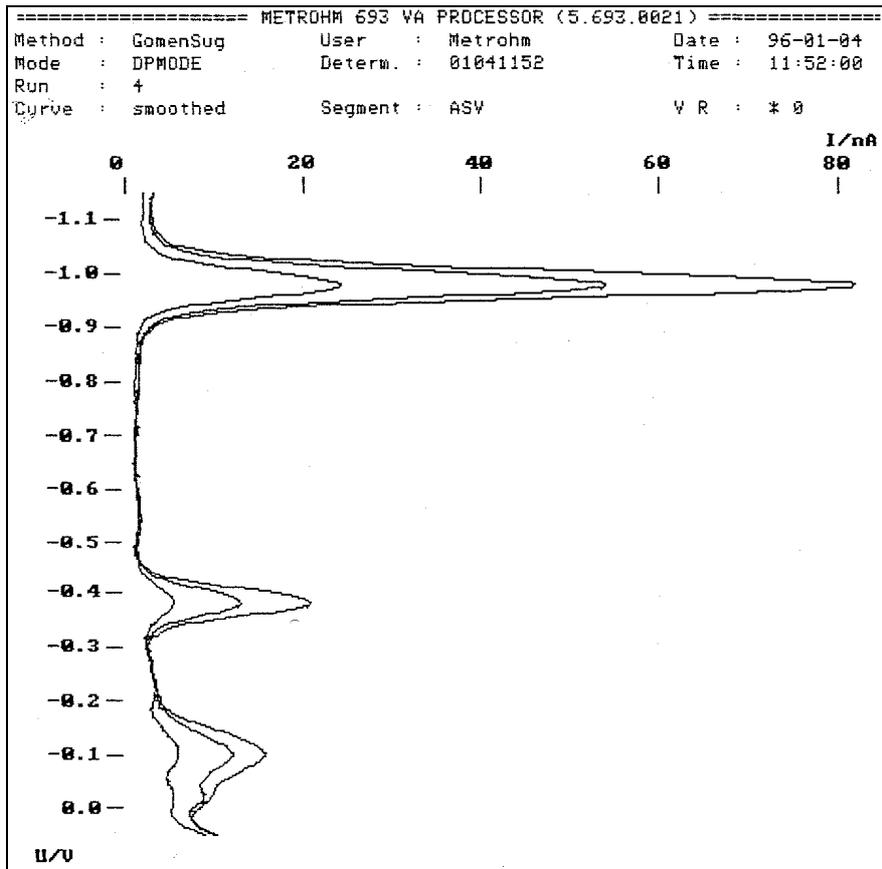
Electrolyte:	NH ₄ Ac buffer, pH = 4.6
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPASV (+50 mV), HMDE $U_{\text{meas}} = -1150 \text{ mV (90s)}$, $U_{\text{start}} = -1150 \text{ mV}$, $U_{\text{end}} = +50 \text{ mV}$ $E_p(\text{Zn}) = -980 \text{ mV}$, $E_p(\text{Pb}) = -385 \text{ mV}$, $E_p(\text{Cu}) = -100 \text{ mV}$

Iron:

Electrolyte:	Catechol and Pipes buffer pH = 7.0 ± 0.1 with NH ₃
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPCSV (-50 mV), HMDE $U_{\text{meas}} = -200 \text{ mV (60s)}$, $U_{\text{start}} = -100 \text{ mV}$, $U_{\text{end}} = -600 \text{ mV}$ $E_p(\text{Fe}) = -340 \text{ mV}$

Results:	Zn μg/g	Pb μg/g	Cu μg/g	Fe μg/g
	3.02	1.80	0.626	6.58

Determination of zinc, lead and copper



Determination of iron

