Sample

mass

Live time

Isotope	½ life	peak	counts	unc	cps/g	cpm/g*	cpm/g EOI
Na24		2754					
		1368					
Isotope 2							

* correct for decay during counting

* corrected for decay since irradiation

$$\left(\frac{cps}{g}@t_0\right) = \left(\frac{cps}{g}@t_c\right) \cdot e^{+\lambda t}$$

$$\left(\frac{cps}{g}@t_c\right) = \left(\frac{counts}{LT \cdot g}\right) \frac{\lambda(\Delta t)}{1 - e^{-\lambda \Delta t}}$$

Real time

live time

end of irradiation

t_0

clock

t_c

t

Real time

pottery

sample

$$\sqrt{\frac{\left(\frac{cps}{g}@t_0\right)^{Na\,24\ @\ 1368\,keV}}{\text{concentration of Na}}} \stackrel{?}{=} \frac{\sqrt{\left(\frac{cps}{g}@E_0\right)^{Na\,24\ @\ 1168\,keV}}}{\text{concent of Na X}}$$

* check pottery for other activity + potential interferences (Co-60, Eu-152, Cs-134, etc.)

* check empty vial for contaminations

2093

New samples

List	composition
	>1% level

Sodium - - - - ^{24}Na NAA