1. ^{32}P , $T = 14.3d$, $\lambda = \frac{\ln 2}{T} = 5.61\times10^{-7}\ s^{-1}$

$A = \lambda N = \lambda \cdot \frac{1mg}{32g} \cdot N_A = 1.06\times10^{13}\ Bq$

2、^{131}I , $T = 8.04d$, $A_0 = 5.6\times10^{8}\ Bq$

$A = A_0 e^{-\lambda t}$, $\lambda = \frac{\ln 2}{T}$, $\Rightarrow A = A_0 e^{-\frac{t}{T}\ln 2} = A_0 (\frac{1}{2})^{\frac{t}{T}}$

$\therefore A = 9.2\times10^{7}\ Bq$

3、^{131}I , $t=0$时. 0.5mL溶液. $t=11d$时. 要多少. 已知 $T = 8.04d$.

~~设 而放射性物质体积为 n. 设出厂时共 N_0 ^{131}I~~

$\therefore$ 设出厂时^{131}I浓度为 n_0 $\because$ $A = \lambda\, 0.5 n_0 = \lambda a n \Rightarrow a = \frac{n_0}{n} \cdot 0.5$

$n = n_0 e^{-\lambda t} = n_0 (\frac{1}{2})^{t/T} \Rightarrow a = \frac{n_0}{n_0} 2^{t/T-1} = 1.29\ mL$

4. $1.8\times10^{-8}g$, $T = 1620\ a$, $^{226}_{88}Ra$, 求 1min内的射线数.

$A = \lambda N = \frac{\ln 2}{T} \frac{1.8\times10^{-8}g}{226g} \cdot N_A = 650.5\ Bq$

$\therefore$ 1min内有 $A\cdot 60 = 39031.5$ 条射线