YIELD OF ADDUCT FROM DNA

$1 \text{mol} = 10^{-9} \cdot \left( \frac{1}{20} \text{ sample} \right) \rightarrow 1.35 \times 10^6 \text{ cpm} \quad (p = 35)$

1. $10-19-9, 10 \rightarrow 2.88 \times 10^5 \text{ cpm}$
2. $10-21-2 \rightarrow 3.2 \times 10^5$

$\therefore 6.1 \times 10^5 \text{ cpm total}$

$\frac{6.1 \times 10^5}{13.5 \times 10^5} \rightarrow 45\% \text{ yield from DNA}$

(comparison well with cal on p50)

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100 µl 10-21-2 : 15,841 counts/10 min \( \rightarrow \) 1605 cpm

\[
\begin{align*}
\left( \frac{1605 \text{ cpm}}{0.1 \text{ ml}} \right) \times 20 \text{ ml} &= 3.2 \times 10^5 \text{ cpm in entire peak} \\
&\div 0.33 \rightarrow 9.727 \times 10^5 \text{ dpm}
\end{align*}
\]

\[
\frac{9.727 \times 10^5 \text{ dpm}}{2.2 \times 10^6 \text{ dpm}} \mu \text{Ci} = 4.421 \times 10^{-1} \mu \text{Ci} \text{ of AFB, represented}
\]

The SA of the AFB used was : 1.875 µCi/µmole

\[
\frac{4.421 \times 10^{-1} \mu \text{ Ci}}{1.875 \mu \text{ Ci/µmole}} = 2.358 \times 10^{-1} \mu \text{ moles of AFB, or Adduct}
\]

M.W. Adduct = 478 µg

\[
\frac{478 \mu g}{\mu \text{ mole}} \rightarrow (478 \mu g)(2.358 \times 10^{-1} \mu \text{ mole}) = 112.7 \mu g \text{ Adduct}
\]
Further prepare Chrom. on 10-9-1.

This is the 2nd 1/2 of 10-9-1, which was a hybrid of JE-4 DNA (one rod).
Sample vol = 7 ml.

- The micrometers Li will be used this time.
- Pump the 7 ml onto vol. thrice, while pump.
- Clean pumping system with 10% MeOH (+10 min)
- Pump at 3 ml/hr with 10% THF
- Micrometers (-10 min)
- Go through gradient.

Results:

There also is a 25-4 (water) chromatogram.

Sample 10-21-2

SAMPLE: 10-21-2: The fraction containing the adduct (vol = 20 ml)