

^{76}Se offline analysis

Outline:

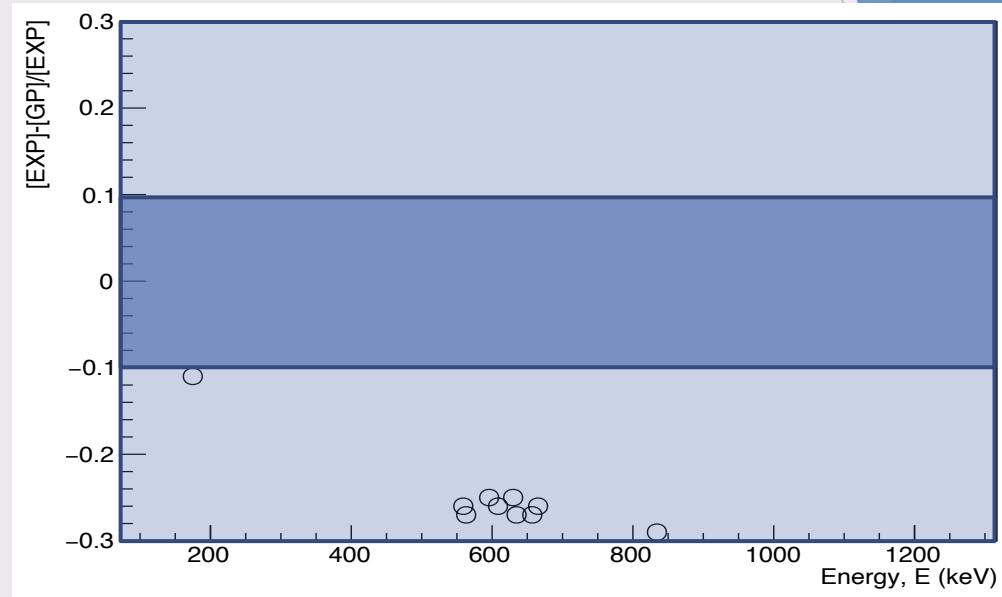
1. Recalibration
2. Full Spectrum after 72 hours
3. Peak fitting 174 keV (^{71}As), 558.9 keV (^{76}As) and 563 keV (^{76}As)
4. Number of isotope produced, $N(X')$

Izyan Hazwani Hashim

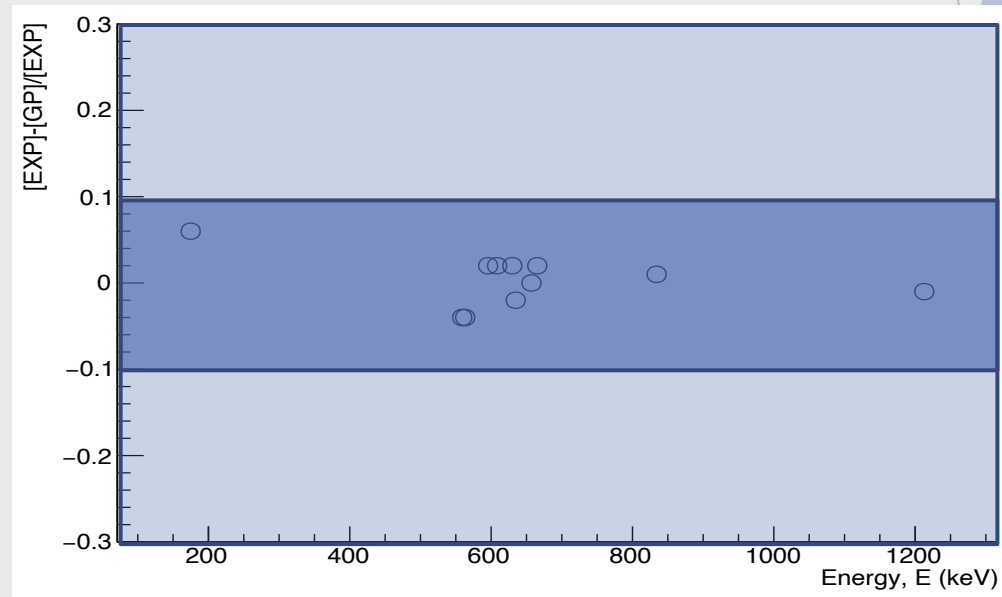
1 Feb 2022

Recalibration

- ▶ Preset calibration (Genie2K)

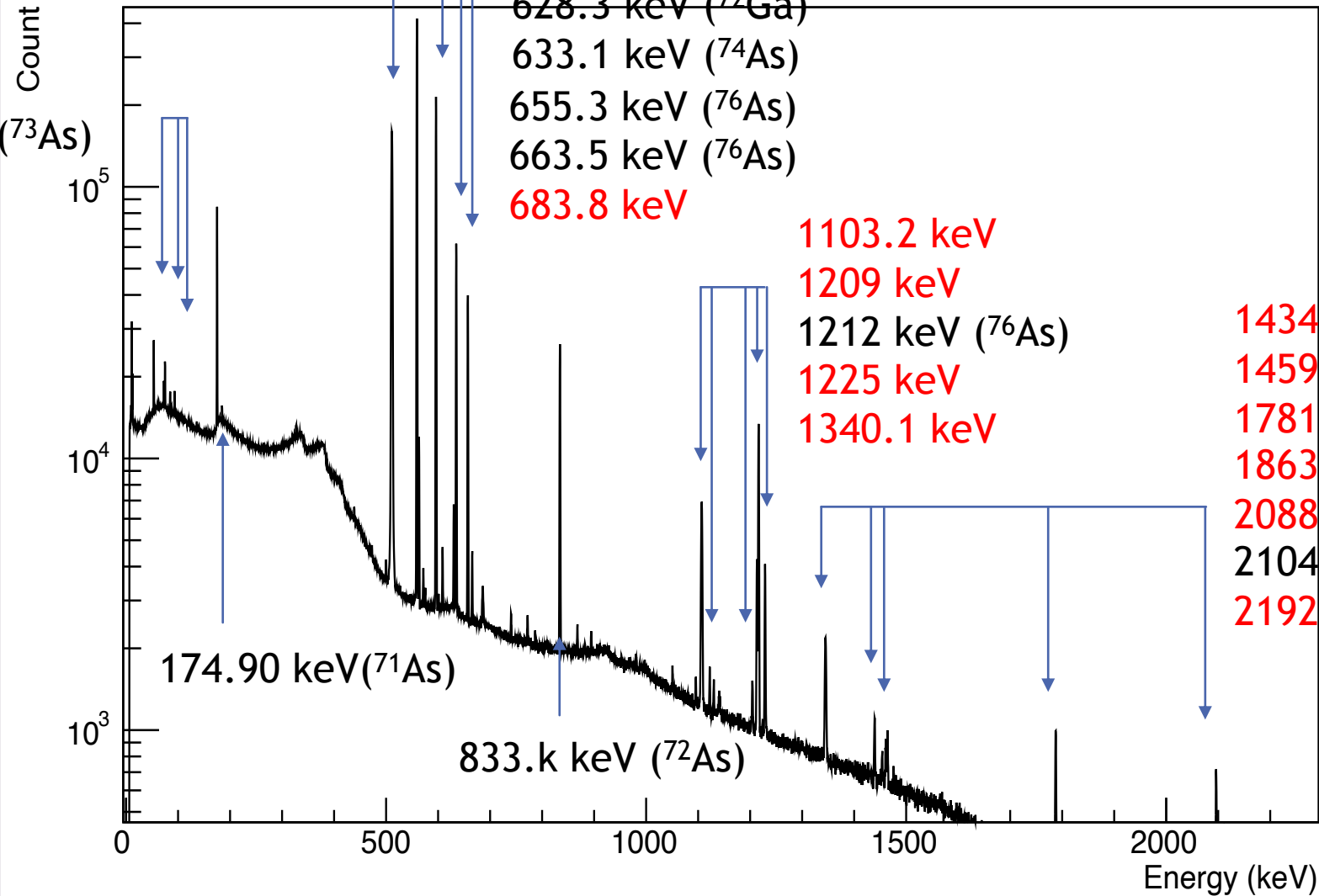


- ▶ Based on Calibration 11th November 2021



Full Spectrum

11.3 keV
12.6 keV
53.5 keV (^{73}As)
72.8 keV
74.9 keV
84.8 keV
93.2 keV



509 keV

558.9 keV (^{76}As)

562.9 keV (^{76}As)

594.3 keV (^{74}As)

606.8 keV (^{74}As)

628.3 keV (^{72}Ga)

633.1 keV (^{74}As)

655.3 keV (^{76}As)

663.5 keV (^{76}As)

683.8 keV

1103.2 keV

1209 keV

1212 keV (^{76}As)

1225 keV

1340.1 keV

1434.5 keV

1459.2 keV

1781 keV

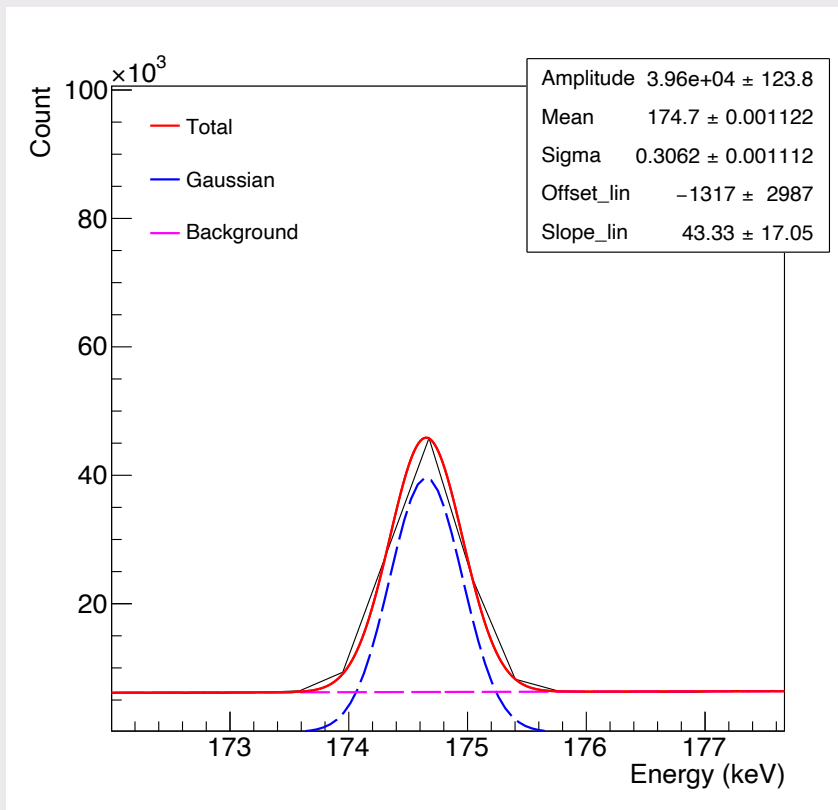
1863 keV

2088 keV

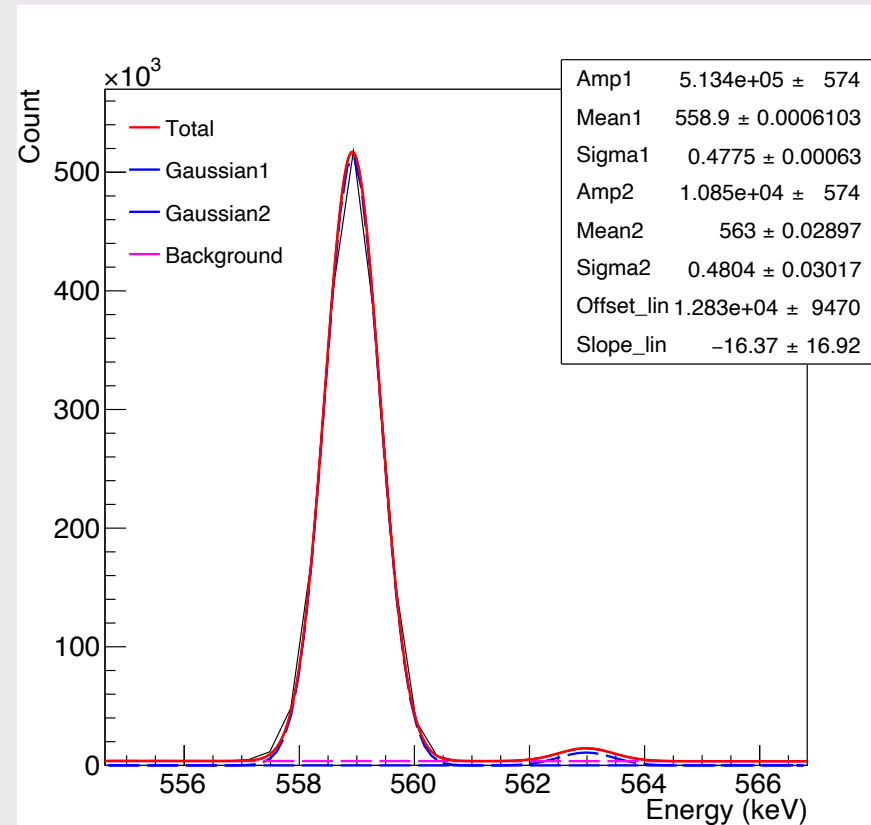
2104 keV (^{72}As)

2192 keV

Peak fitting 174 keV (^{71}As), 558.9 keV (^{76}As) and 563 keV (^{76}As)



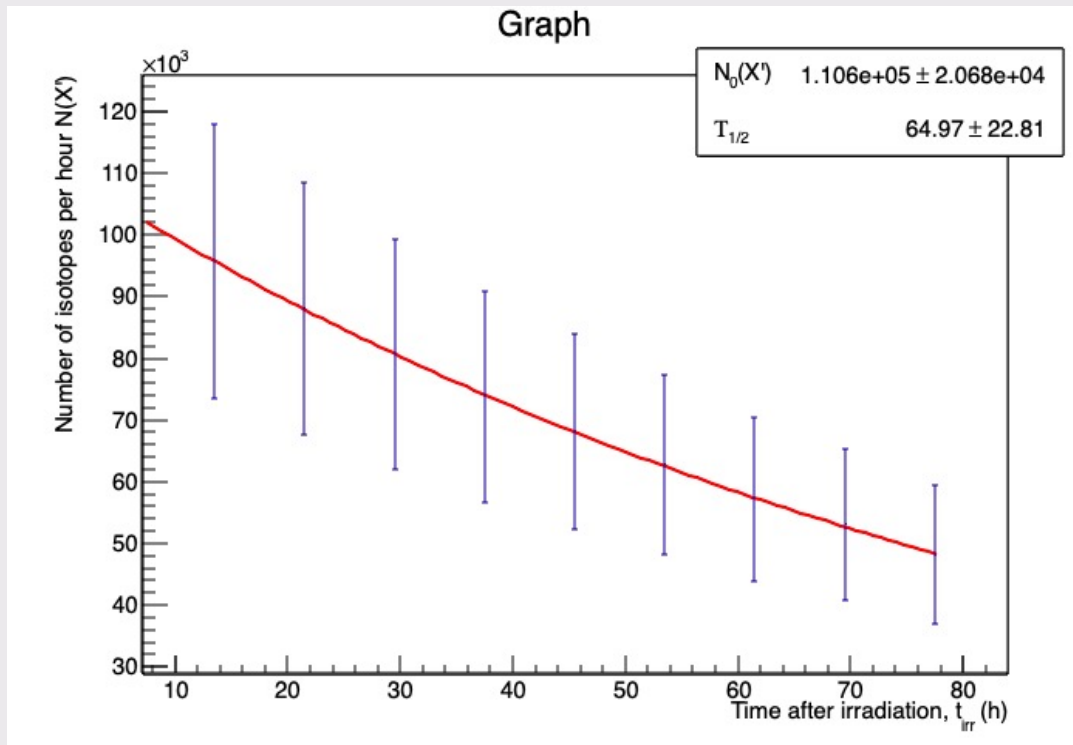
174 keV (^{71}As) after 77.5 hours



558.9 keV (^{76}As) and 563 keV (^{76}As) after 13.5 hours

Number of isotope produced, $N(X')$

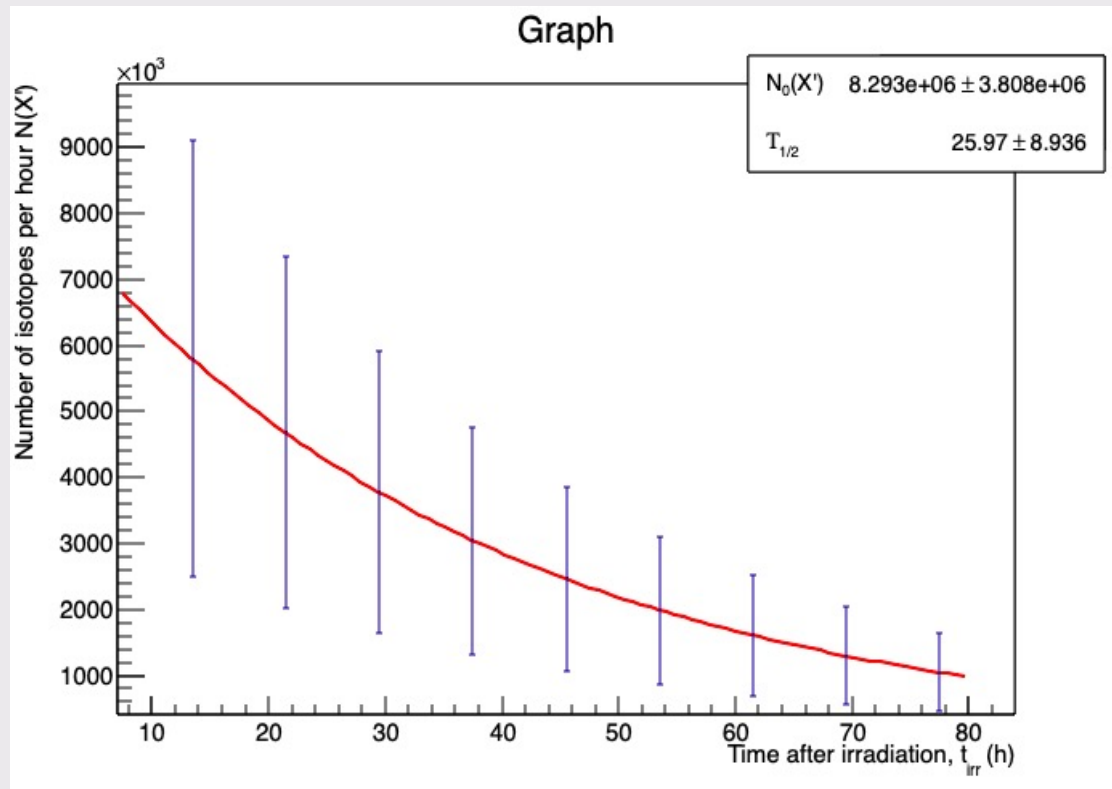
- 174 keV (^{71}As)



- ▶ Fitting by
- ▶ Reference Lifetime:
 65.3 ± 0.3 h
- ▶ Present observation:
 64.97 ± 22.81 h

Number of isotope produced, $N(X')$

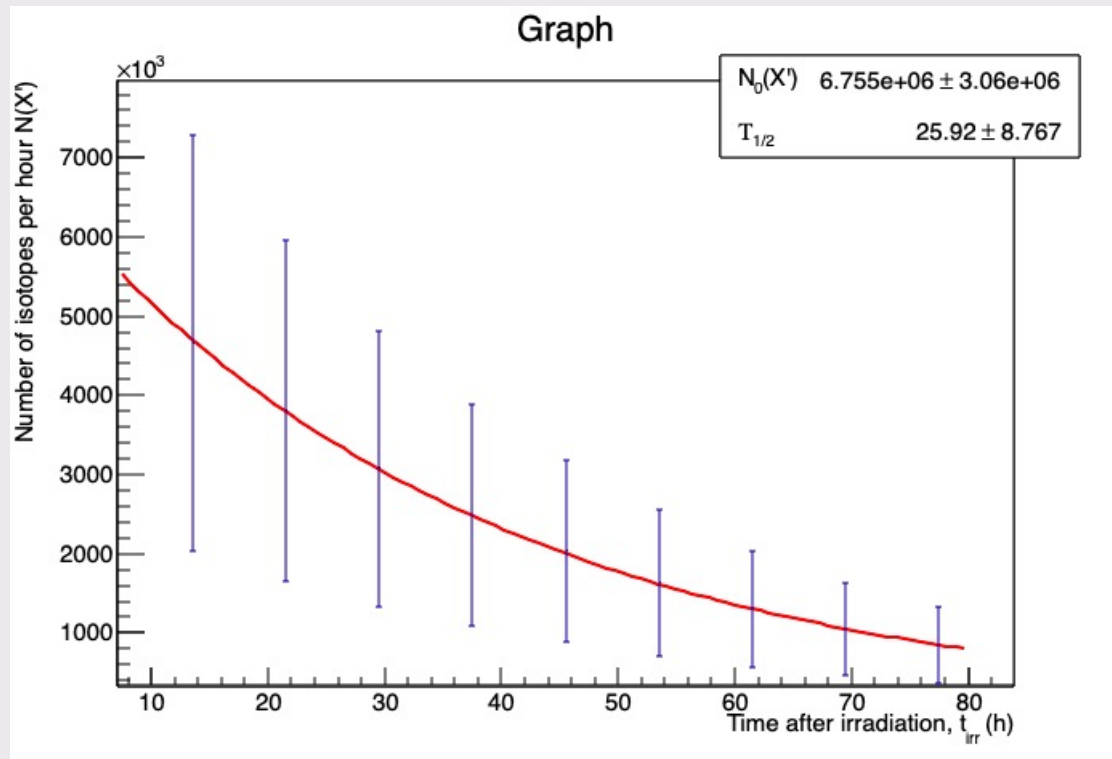
- 558.9 keV (^{76}As)



- ▶ Fitting by
- ▶ Reference Lifetime:
 26.2 ± 0.5 h
- ▶ Present observation:
 25.97 ± 8.94 h

Number of isotope produced, $N(X')$

- 563 keV (^{76}As)



- ▶ Fitting by
- ▶ Reference Lifetime:
 26.2 ± 0.5 h
- ▶ Present observation:
 25.92 ± 8.77 h