



Isomeric ratio

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ATOMKI

$$\sigma_1 = \frac{\lambda_1 T_\gamma}{\varepsilon_{d_1} \varepsilon_{\gamma_1} N_t N_b \left(1 - e^{-\lambda_1 t_b}\right) e^{-\lambda_1 t_c} \left(1 - e^{-\lambda_1 t_m}\right)}$$

Hg 195 41.6 h 10.53 h IT (123), e ⁻ γ 37..., e ⁻ ε, β ⁺ ... γ 780 γ 560 61..., e ⁻ 388..., m g	Hg 196 0.15 σ 105 + 3000	Hg 197 23.8 h 64.14 h IT (165), e ⁻ γ 134, e ⁻ ε m γ 77 191..., e ⁻ g	Hg 198 9.97 σ 0.017 + 2	Hg 199 42.67 m 16.87 IT 374... e ⁻ γ 158... σ 2100	Hg 200 23.10 σ ~1
Au 194 38.0 h ε β ⁺ 1.5... γ 328, 294 1469...	Au 195 30.5 s 186.01 d IT (319 57), e ⁻ γ 262 200... g	Au 196 9.6 h 8.1 s 6.1669 d IT (175) e ⁻ γ 148 188... e ⁻ , m ₁ c β ⁻ 0.3 γ 356 (85) 333 426...	Au 197 7.73 s 100 IT 130... e ⁻ γ 279... σ 0.008 + 98.7	Au 198 2.272 d 2.6948 d IT (115), e ⁻ γ 215, 97 180, 204... σ 25100	Au 199 3.139 d β ⁻ 0.3, 0.5... γ 158, 208... g σ ~30
Pt 193 4.33 d 50 a IT (136), e ⁻ γ (13, 2) e ⁻	Pt 194 32.86 σ 0.1 + 1.1 σ _{n,α} < 5E-6	Pt 195 4.010 d 33.78 IT (129...) e ⁻ γ 99, 130... e ⁻ σ 28 σ _{n,α} < 5E-6	Pt 196 25.21 σ 0.045 + 0.55	Pt 197 95.41 m 19.8915 h IT 346, e ⁻ γ 53, e ⁻ β ⁻ 0.7 m g	Pt 198 7.356 β ⁻ 0.6 0.7... γ 77, 191... e ⁻ σ 0.3 + 3.1
Ir 192 241 a 1.45 m 73.829 d IT (57) e ⁻ , γ 317 β ⁻ 0.7... ε, γ 317 468... IT 155 e ⁻ γ (317...) σ 1588 g	Ir 193 10.53 d 62.7 σ 0.04 + 111	Ir 194 171 d 19.15 h β ⁻ γ 483 294... 328... σ 1600	Ir 195 3.67 h 2.29 h β ⁻ 0.4, 0.9... γ 99, 320 1.1... β ⁻ 1.0 1.1... γ 99 433, 685... e ⁻ , g, m 211..., e ⁻ IT (100), e ⁻ g	Ir 196 1.40 h 52 s β ⁻ 1.2... γ 394, 521 356, 447 647... β ⁻ 3.2... γ 356, 779 447, 333...	Ir 197 8.9 m 5.8 m β ⁻ 2.0... γ 470, 431, 816...

m/g

g/m

m/(m+g)

Independent, IT: 100%, IT<100%

$T_{1/2}(m) < T_{1/2}(g)$, $T_{1/2}(m) > T_{1/2}(g)$, $T_{1/2}(m) \sim T_{1/2}(g)$,

g stable

1=m

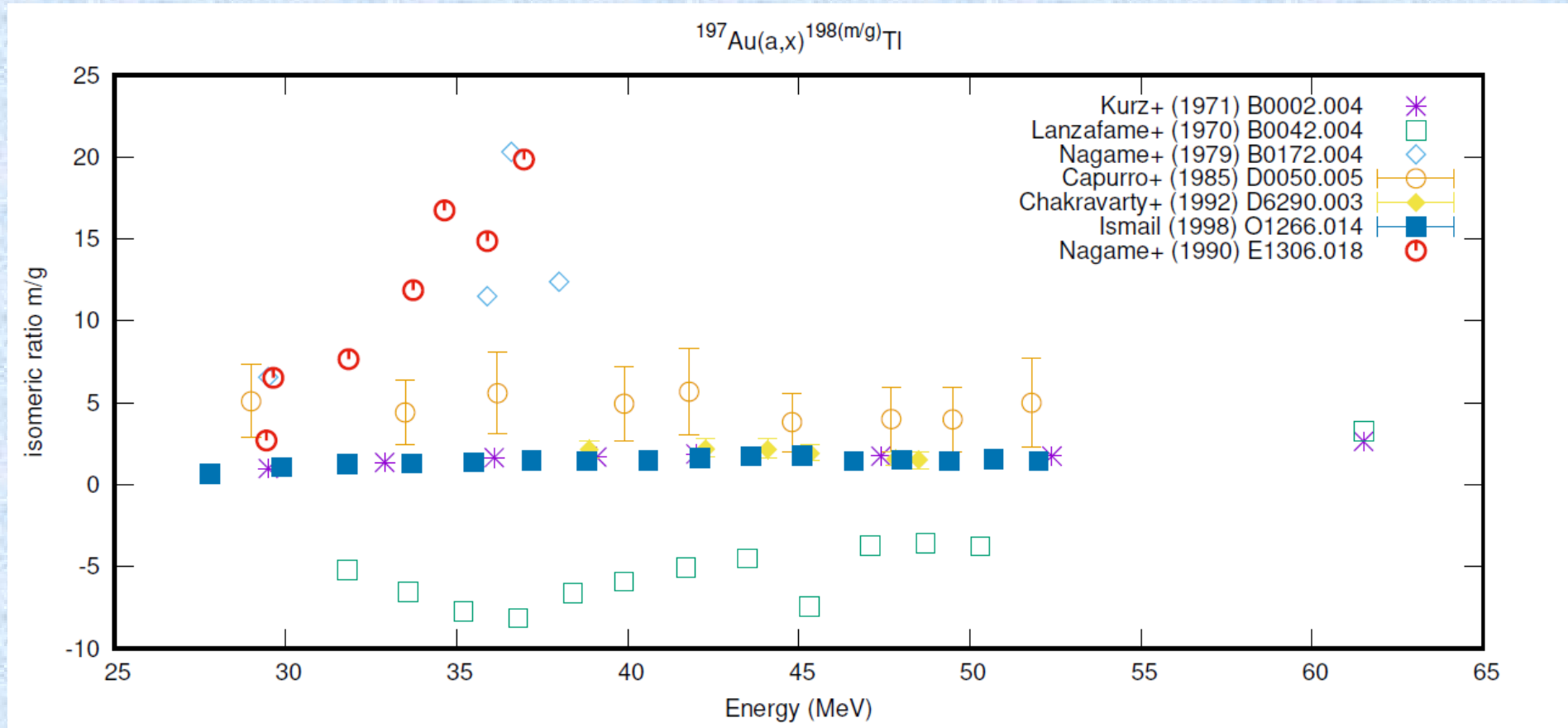
2=g

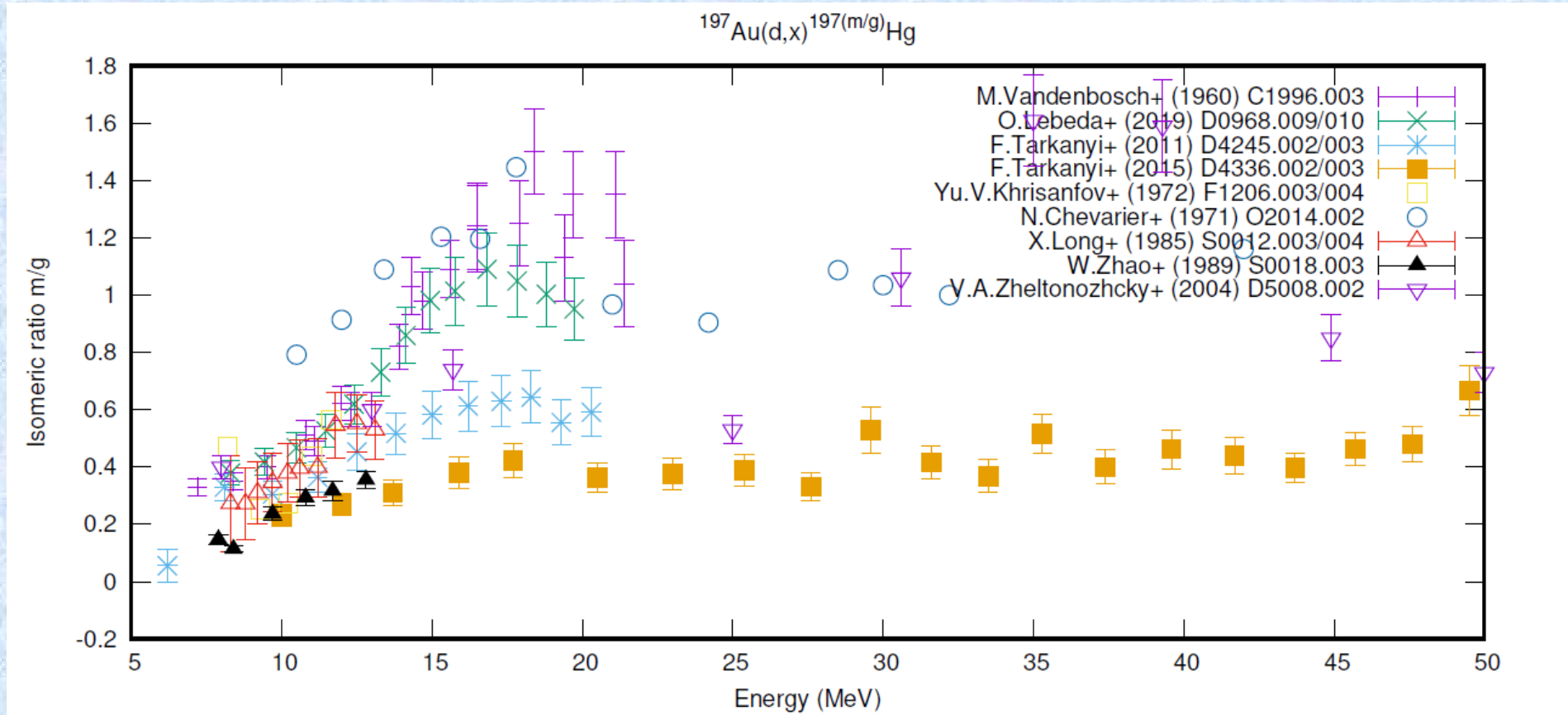
$$\sigma_1 = \frac{\lambda_1 T_\gamma}{\varepsilon_{d_1} \varepsilon_{\gamma_1} N_t N_b \left(1 - e^{-\lambda_1 t_b}\right) e^{-\lambda_1 t_c} \left(1 - e^{-\lambda_1 t_m}\right)}$$

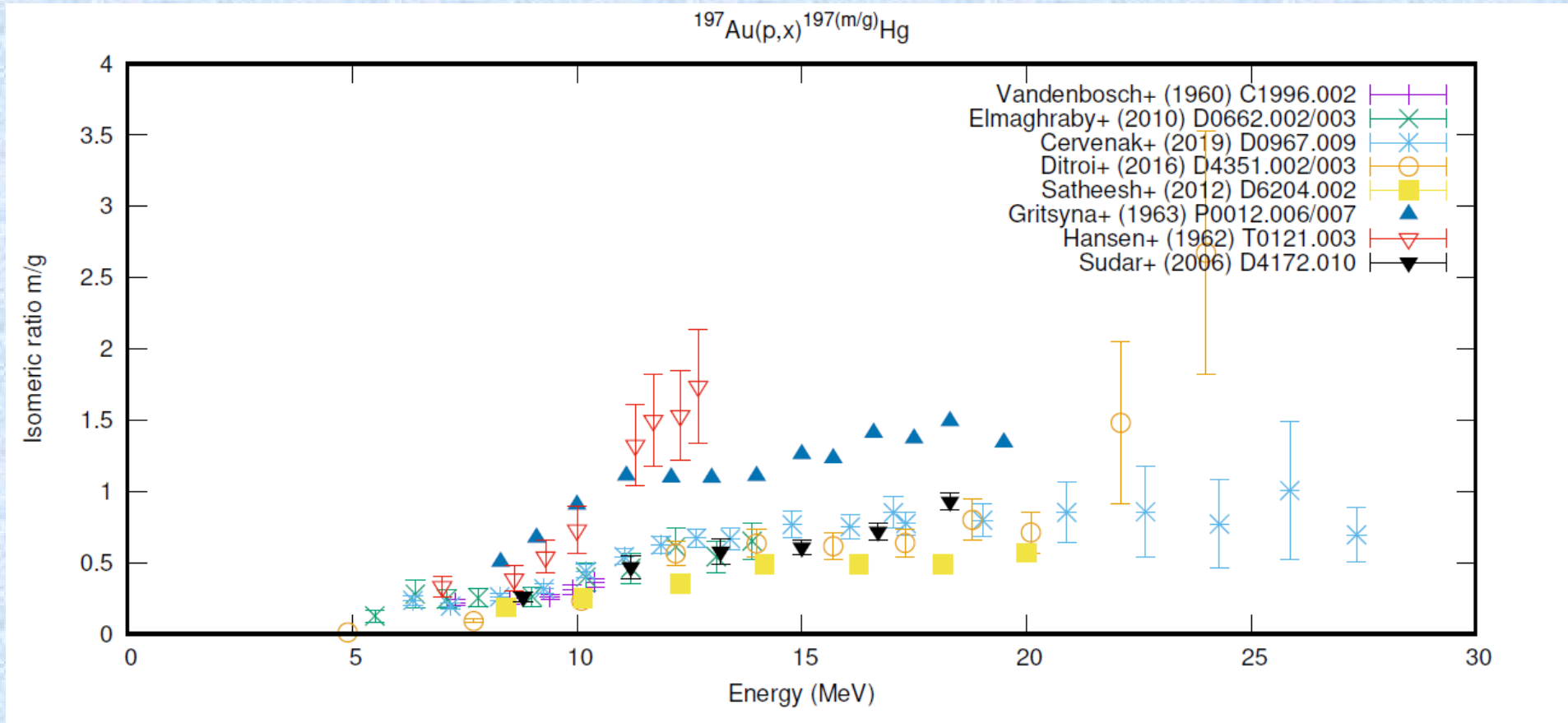
$$\sigma_2 = \frac{\lambda_2 T_{\gamma(cum)}}{\varepsilon_{d_2} \varepsilon_{\gamma_2} N_t N_b \left(1 - e^{-\lambda_2 t_b}\right) e^{-\lambda_2 t_c} \left(1 - e^{-\lambda_2 t_m}\right)} - cf \sigma_1$$

$$\frac{\sigma_2}{\sigma_1} = \frac{\lambda_2 T_{\gamma_2} \varepsilon_{d_1} \varepsilon_{\gamma_1} \left(1 - e^{-\lambda_1 t_b}\right) e^{-\lambda_1 t_c} \left(1 - e^{-\lambda_1 t_m}\right)}{\lambda_1 T_{\gamma_1} \varepsilon_{d_2} \varepsilon_{\gamma_2} \left(1 - e^{-\lambda_2 t_b}\right) e^{-\lambda_2 t_c} \left(1 - e^{-\lambda_2 t_m}\right)} - cf$$

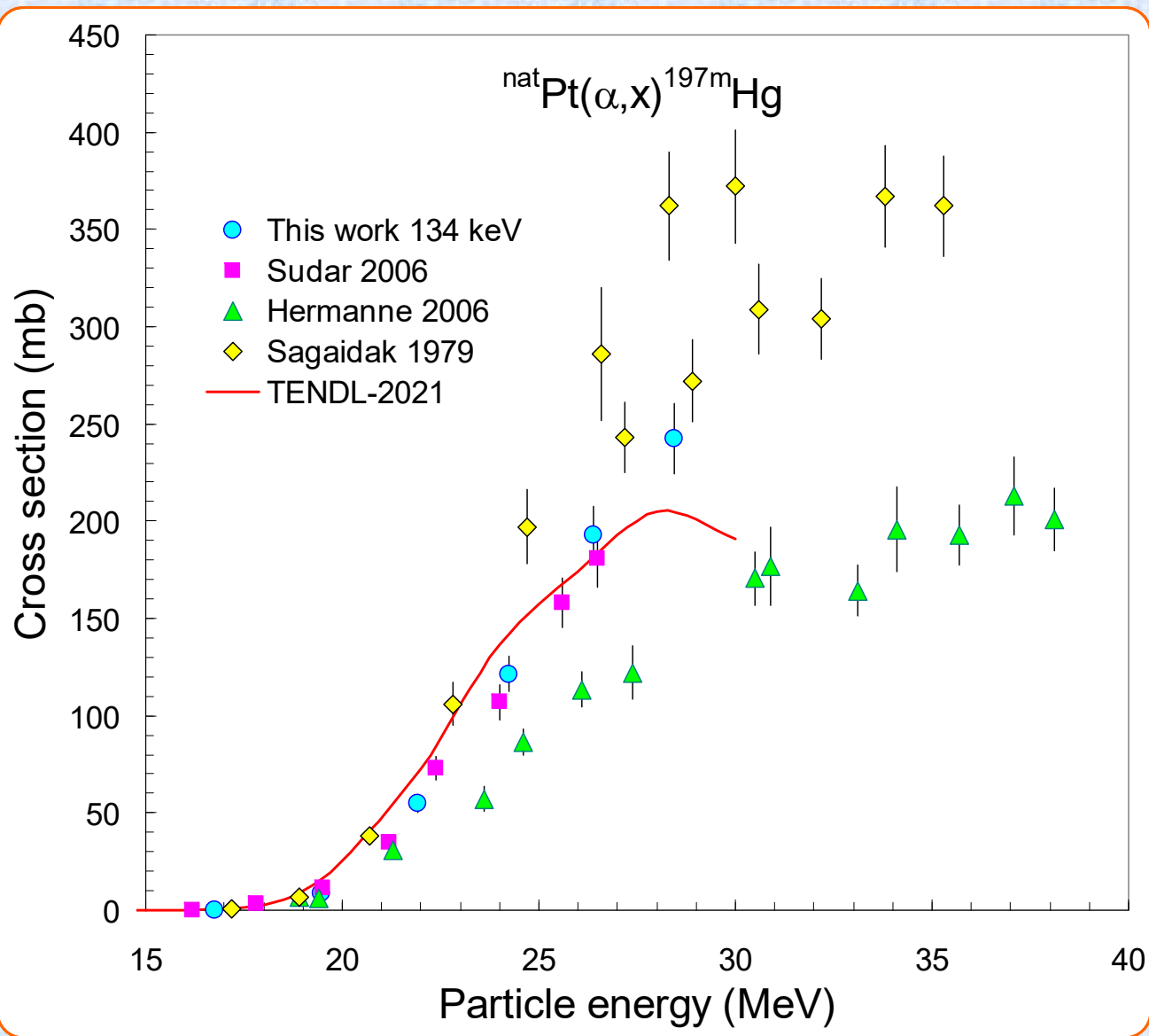
$$c = \frac{\lambda_1}{\lambda_1 - \lambda_2} \left(1 - \frac{\lambda_2}{\lambda_1} \frac{\lambda_2 \left(1 - e^{-\lambda_1 t_b}\right) e^{-\lambda_1 t_c} \left(1 - e^{-\lambda_1 t_m}\right)}{\lambda_1 \left(1 - e^{-\lambda_2 t_b}\right) e^{-\lambda_2 t_c} \left(1 - e^{-\lambda_2 t_m}\right)} \right)$$



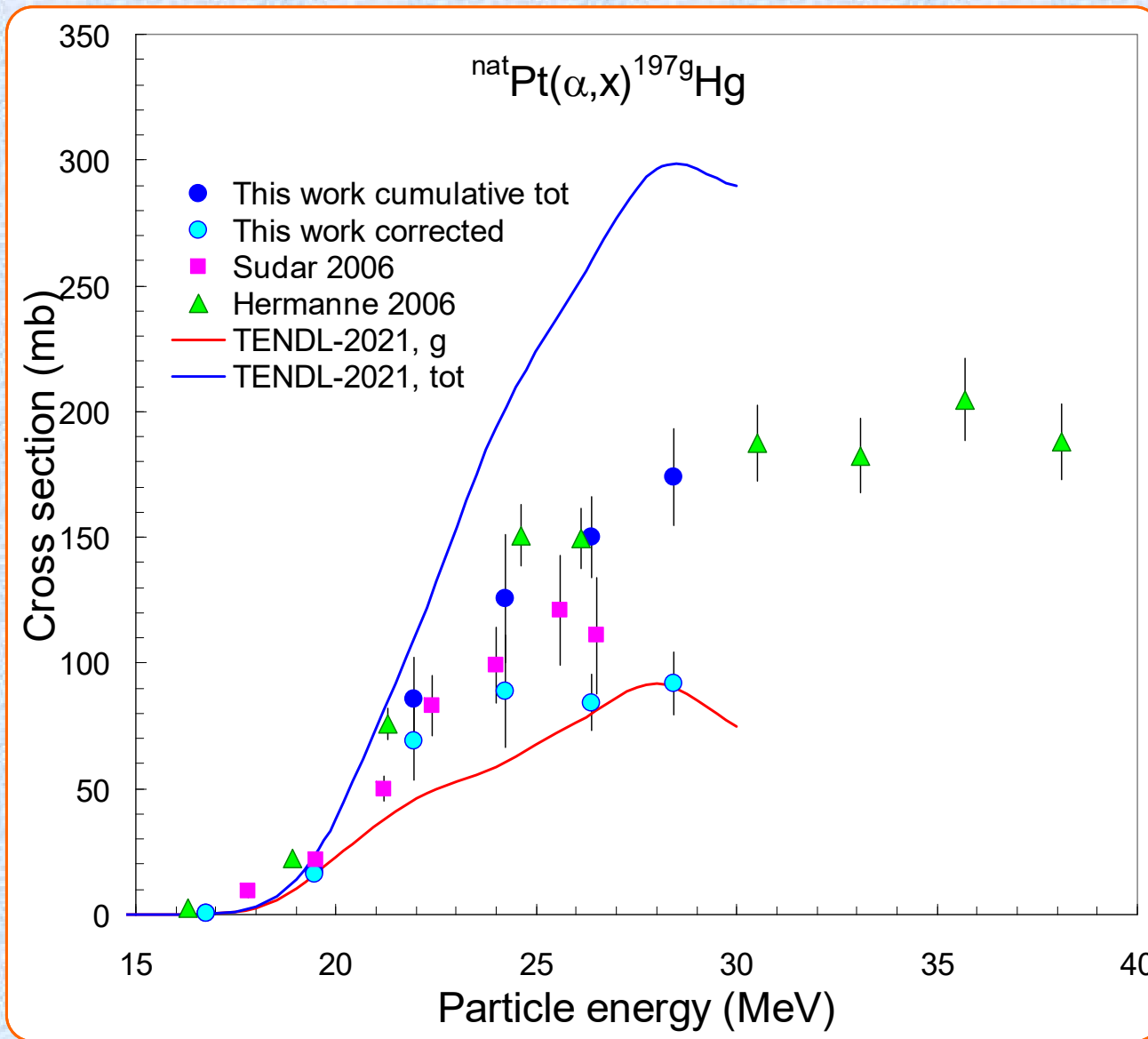




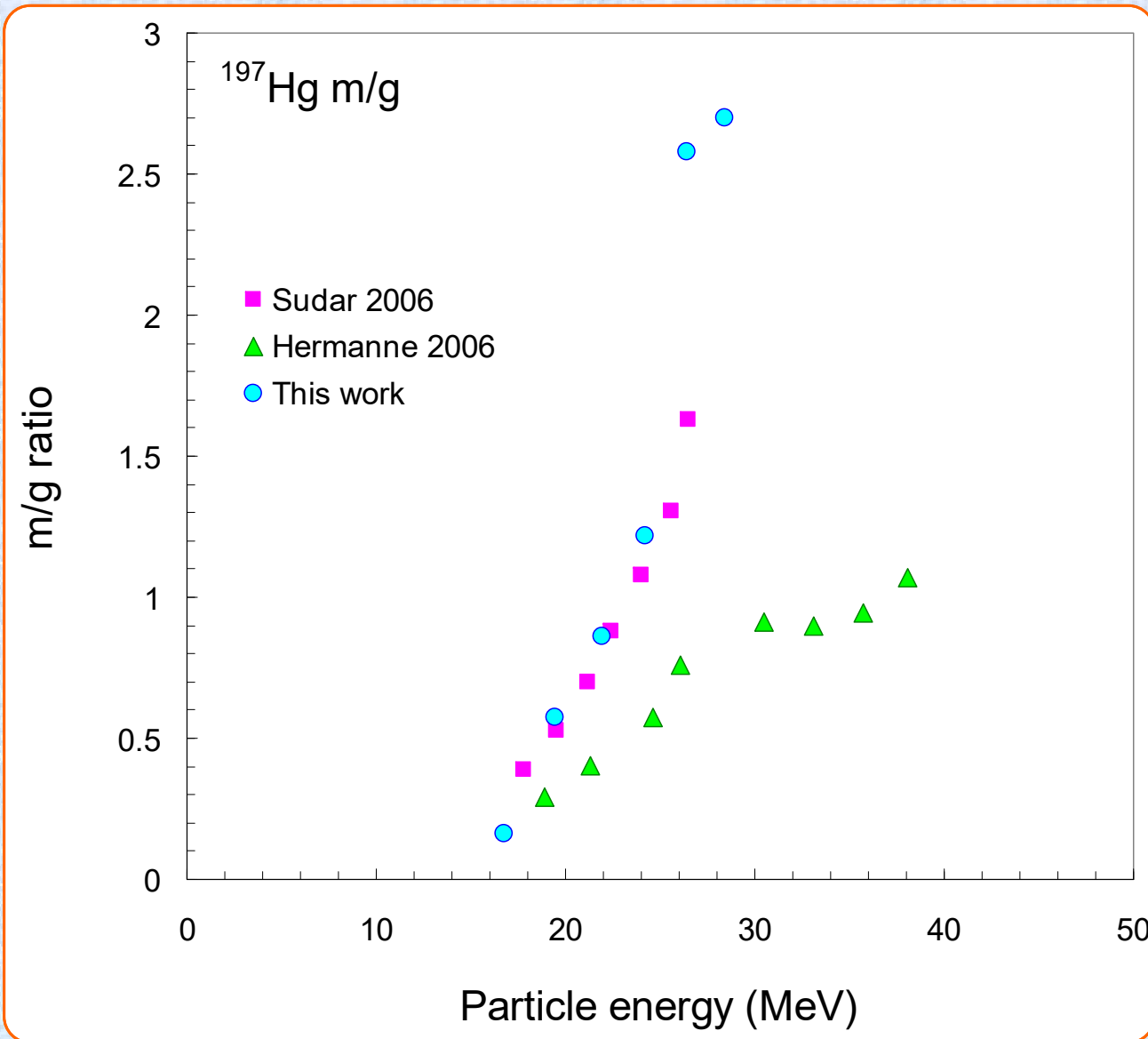
Hg 197	
23.8 h	64.14 h
IT (165), e ⁻	ε
γ 134, e ⁻	γ 77
ε	191..., e ⁻
m	g



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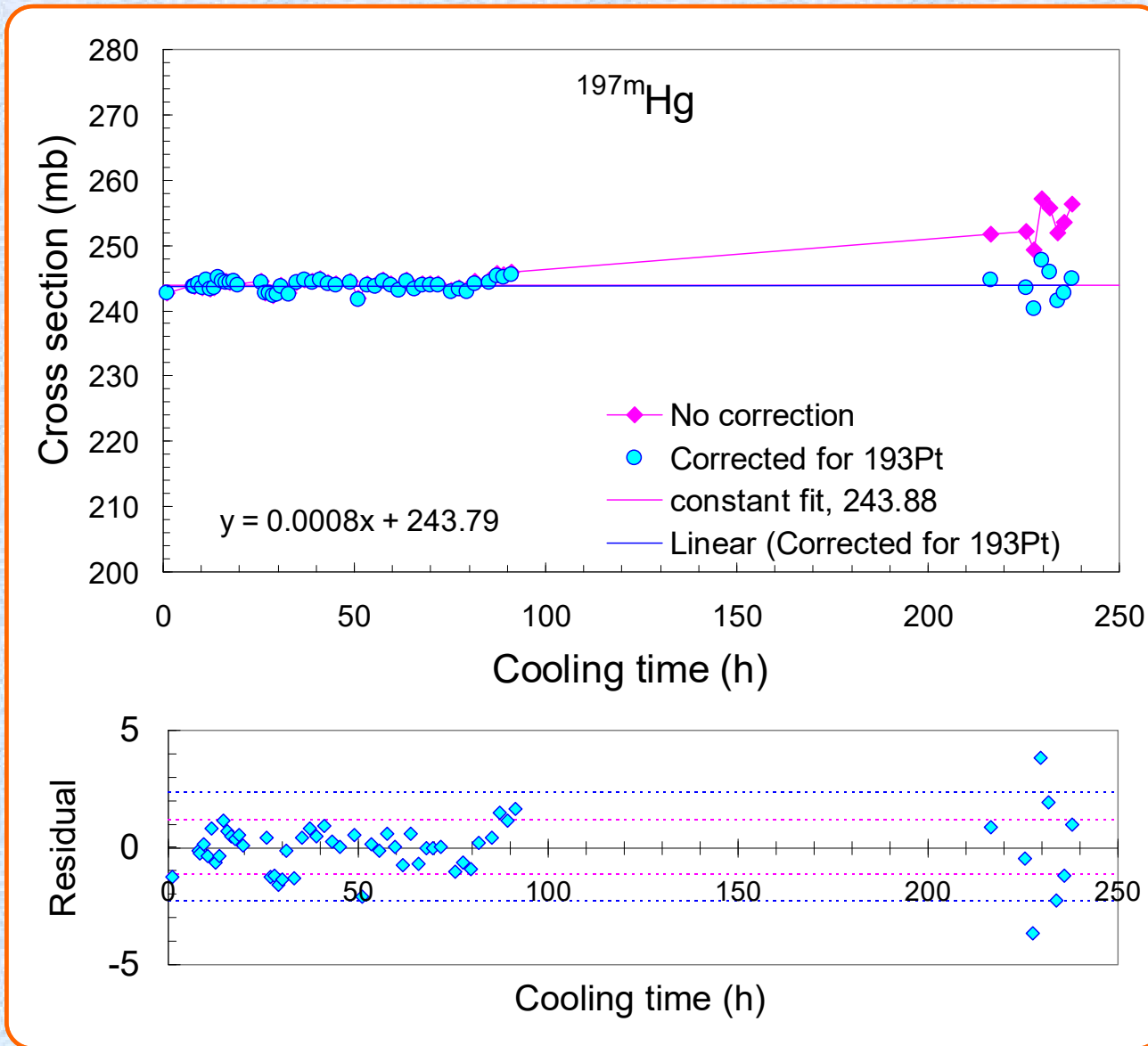


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IT (165), e ⁻	ε
γ 134, e ⁻	γ 77
ε	191..., e ⁻
m	g

Pt 193	
4.33 d	50 a
IT (136), e ⁻	ε
γ (13, 2)	no γ
e ⁻	g



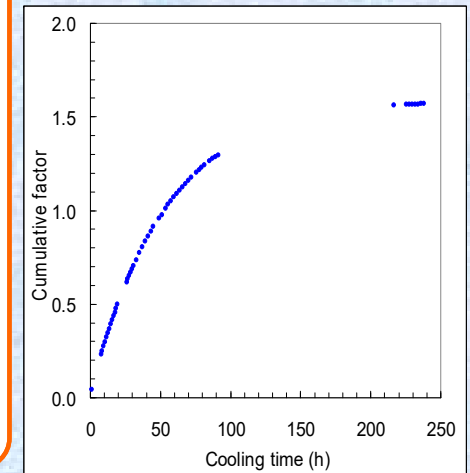
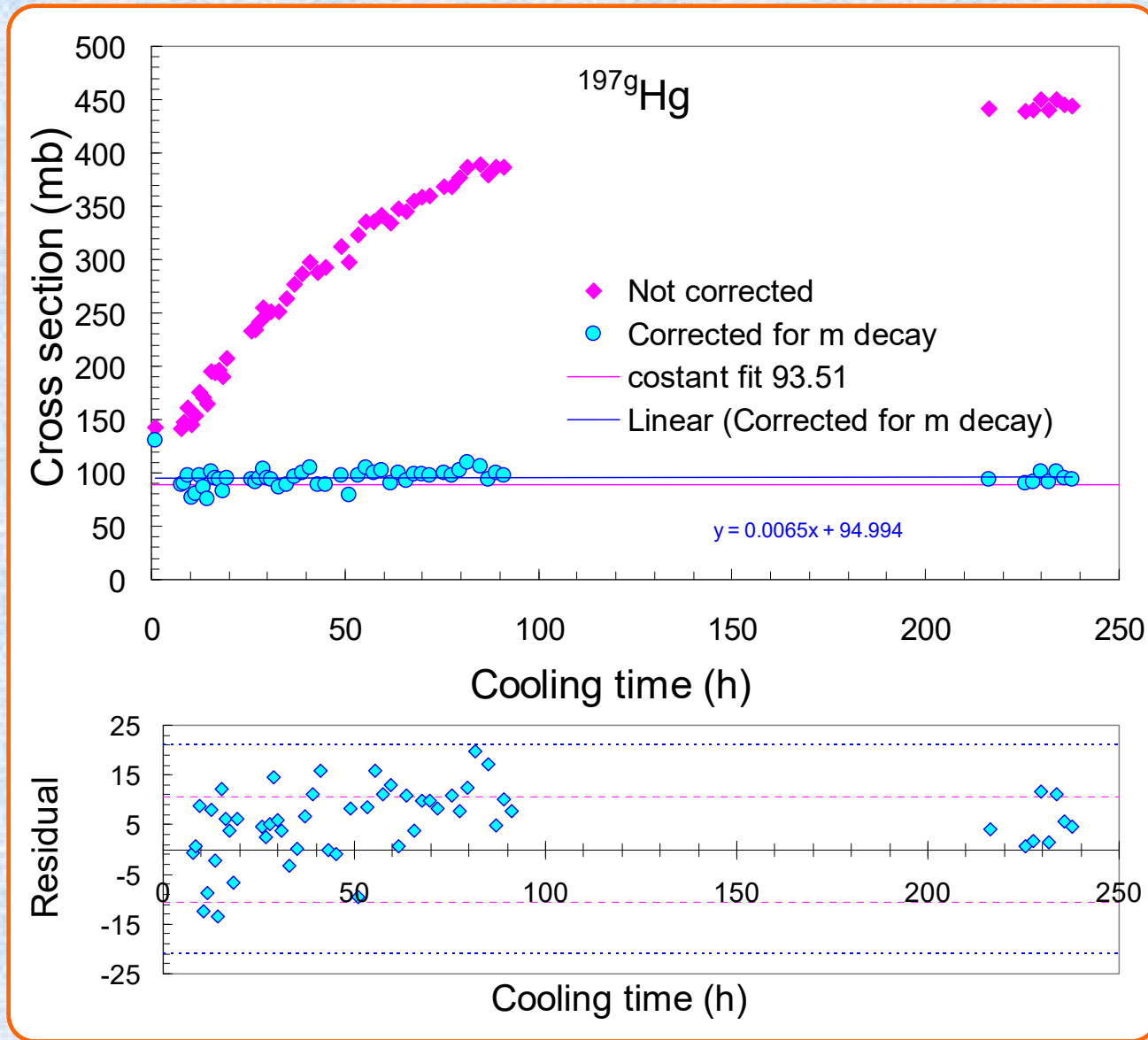
0.335

0.001145

~ 300

$$\sigma_1 = \frac{\lambda_1 T_\gamma}{\epsilon_{d_1} \epsilon_{\gamma_1} N_t N_b (1 - e^{-\lambda_1 t_b}) e^{-\lambda_1 t_c} (1 - e^{-\lambda_1 t_m})}$$

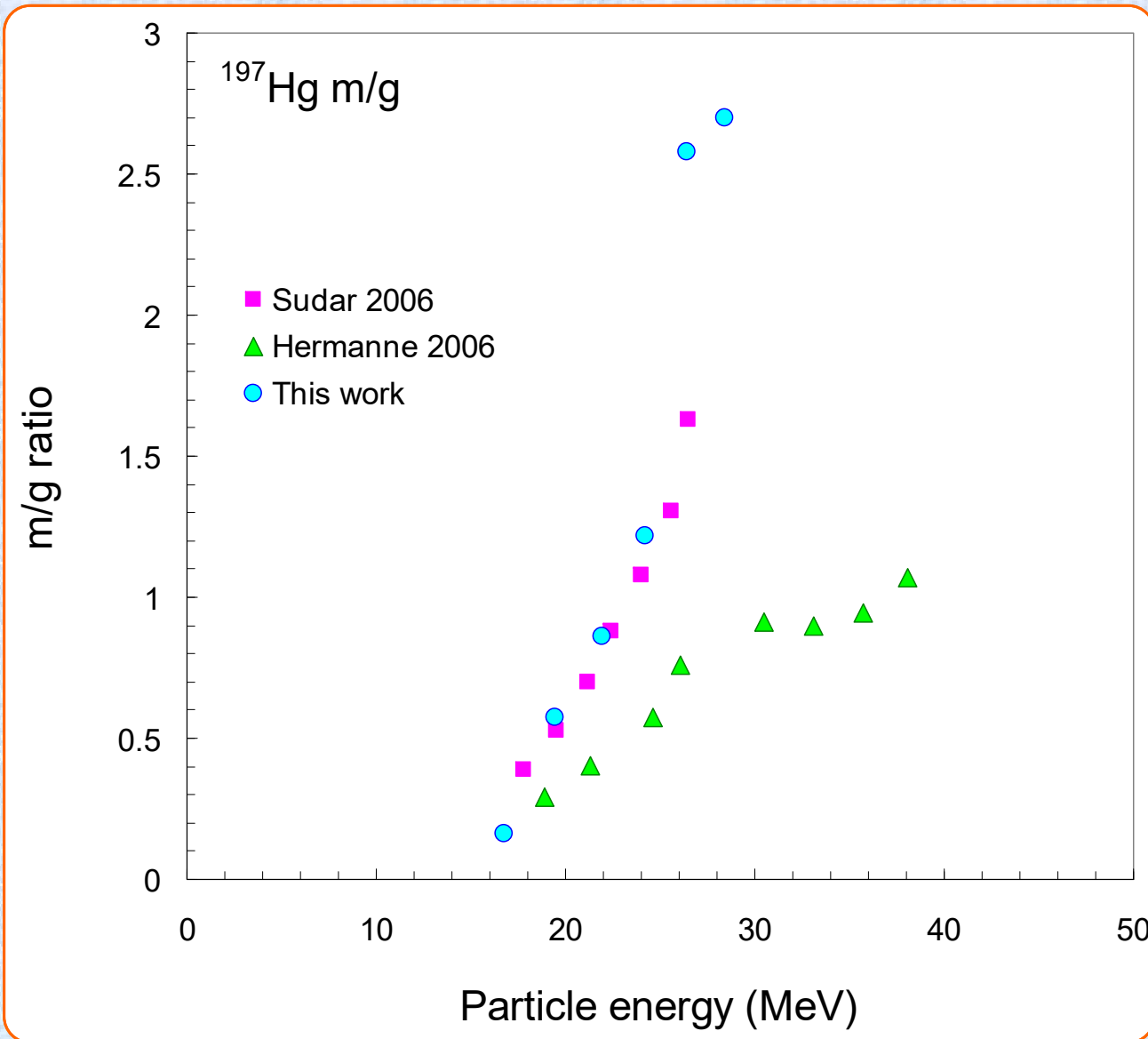
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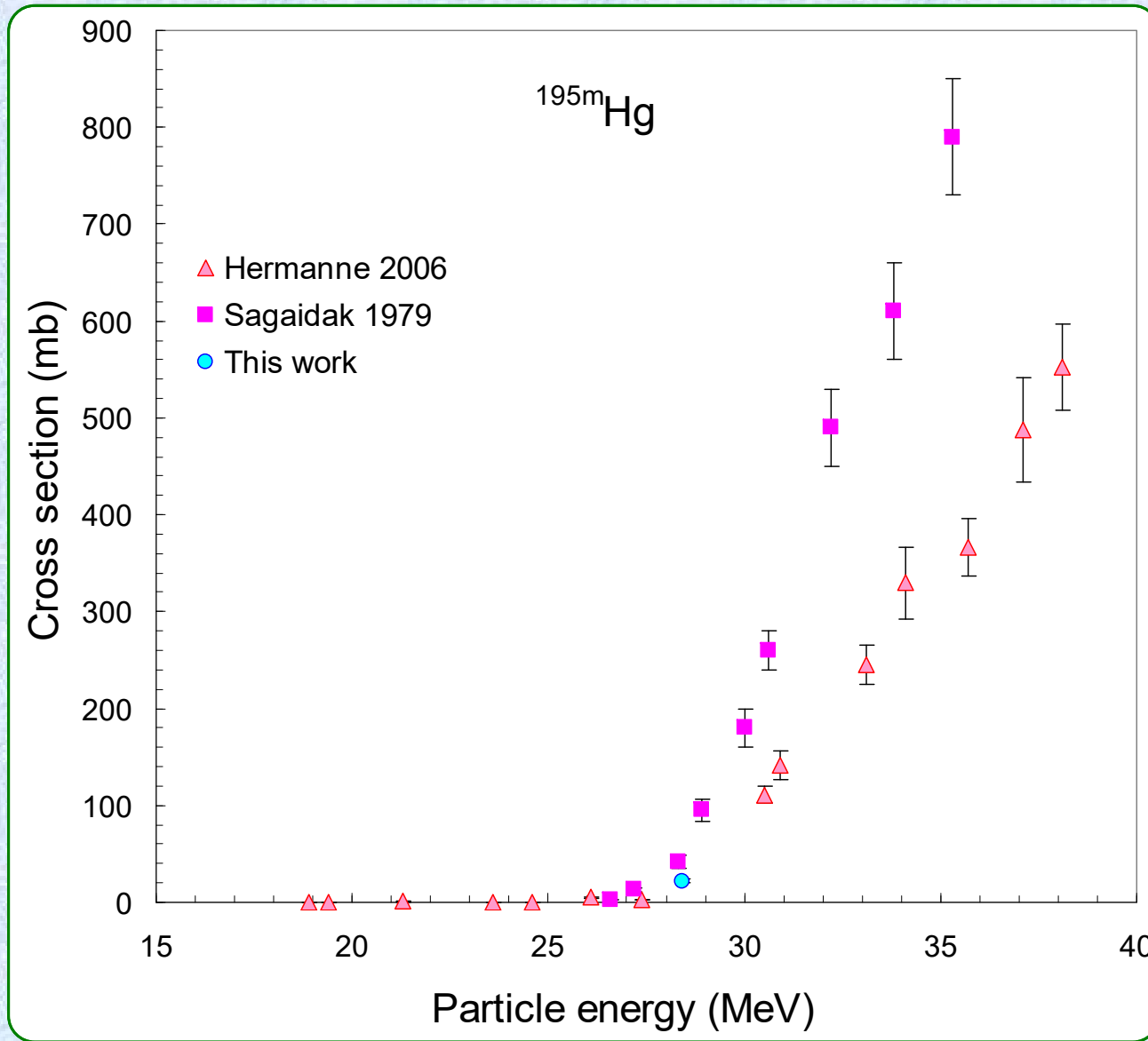
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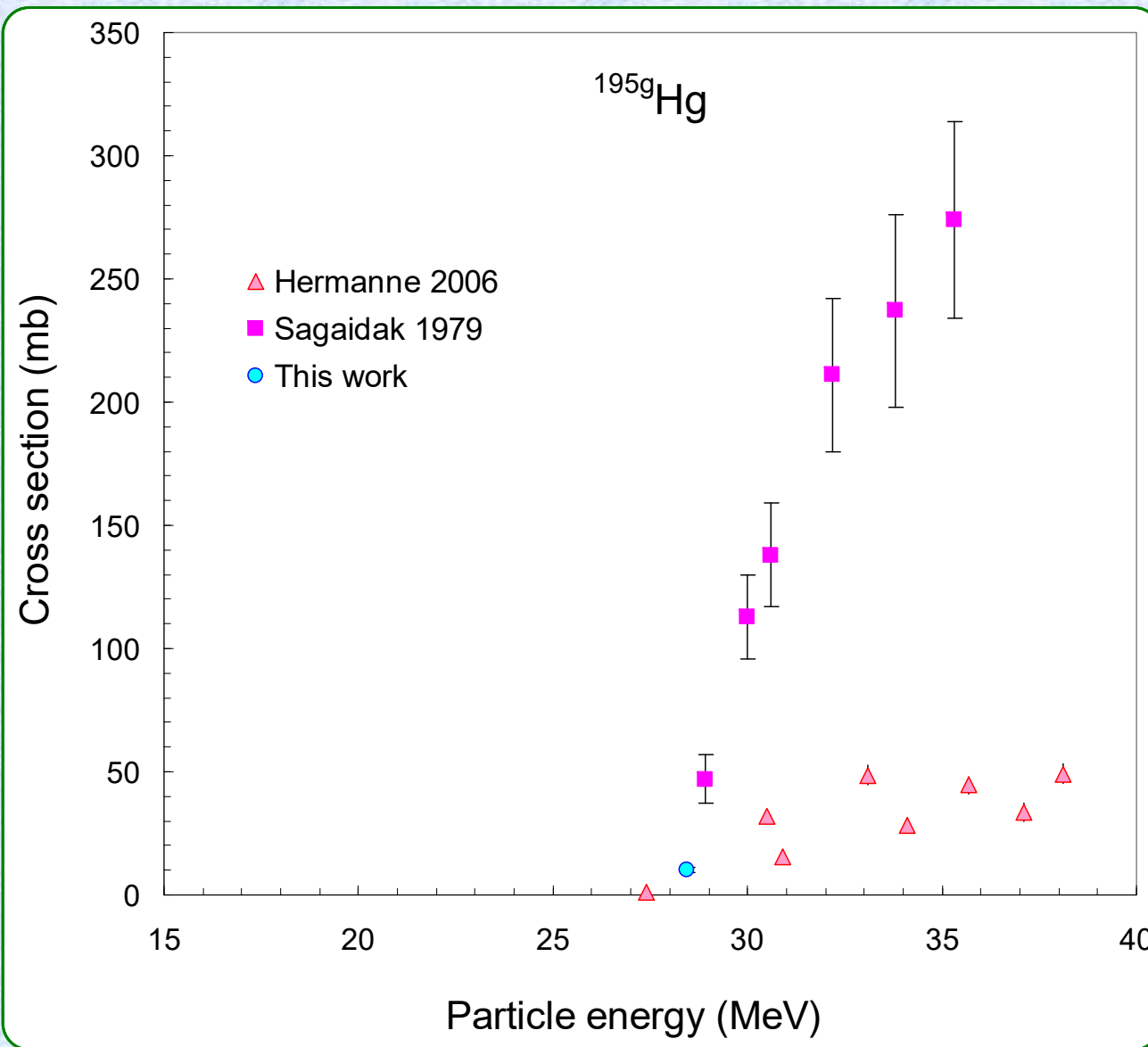
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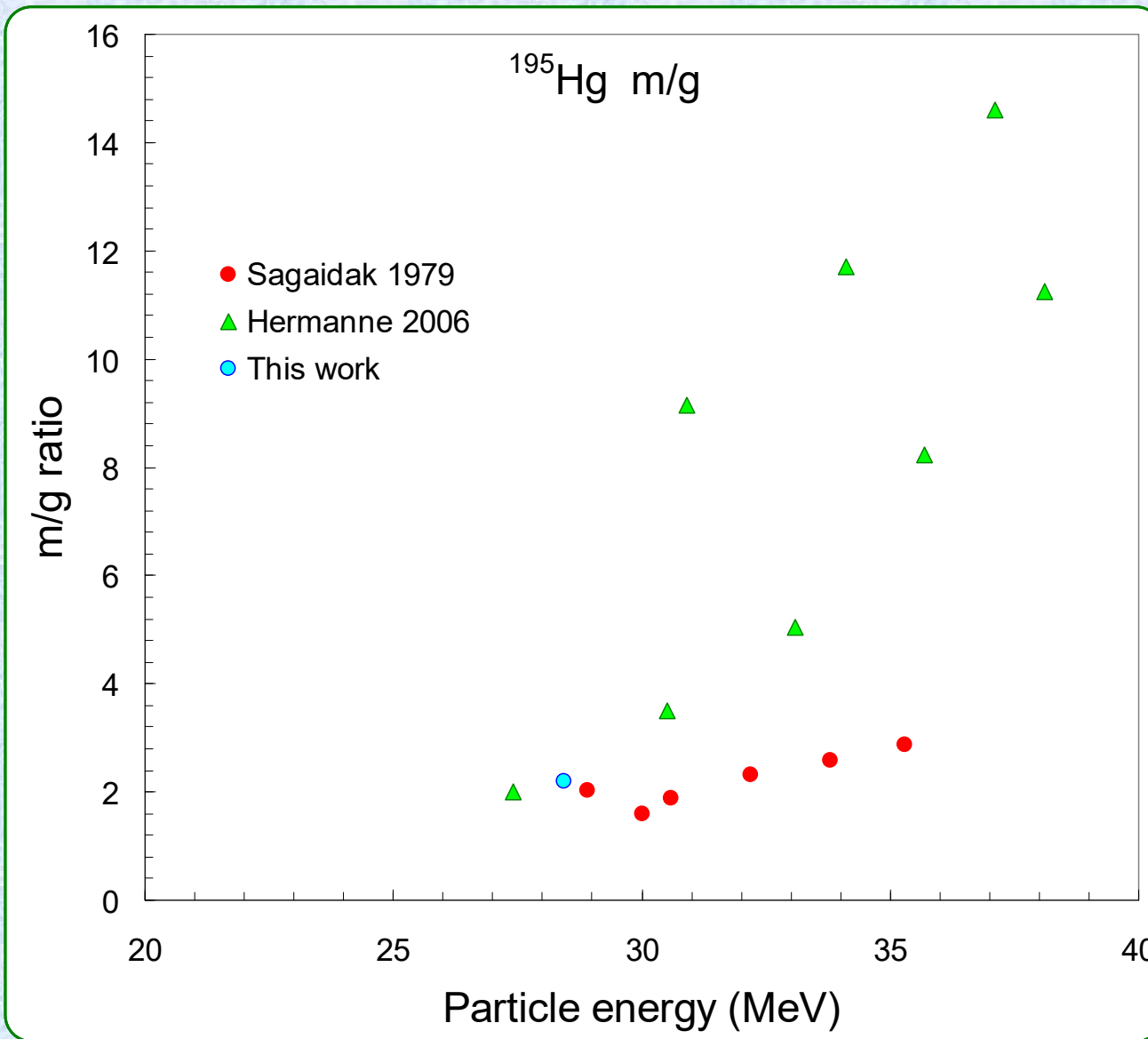
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γ 37..., e ⁻	γ 780
ε, β ⁺ ...	61..., e ⁻
γ 560	g
388..., m	



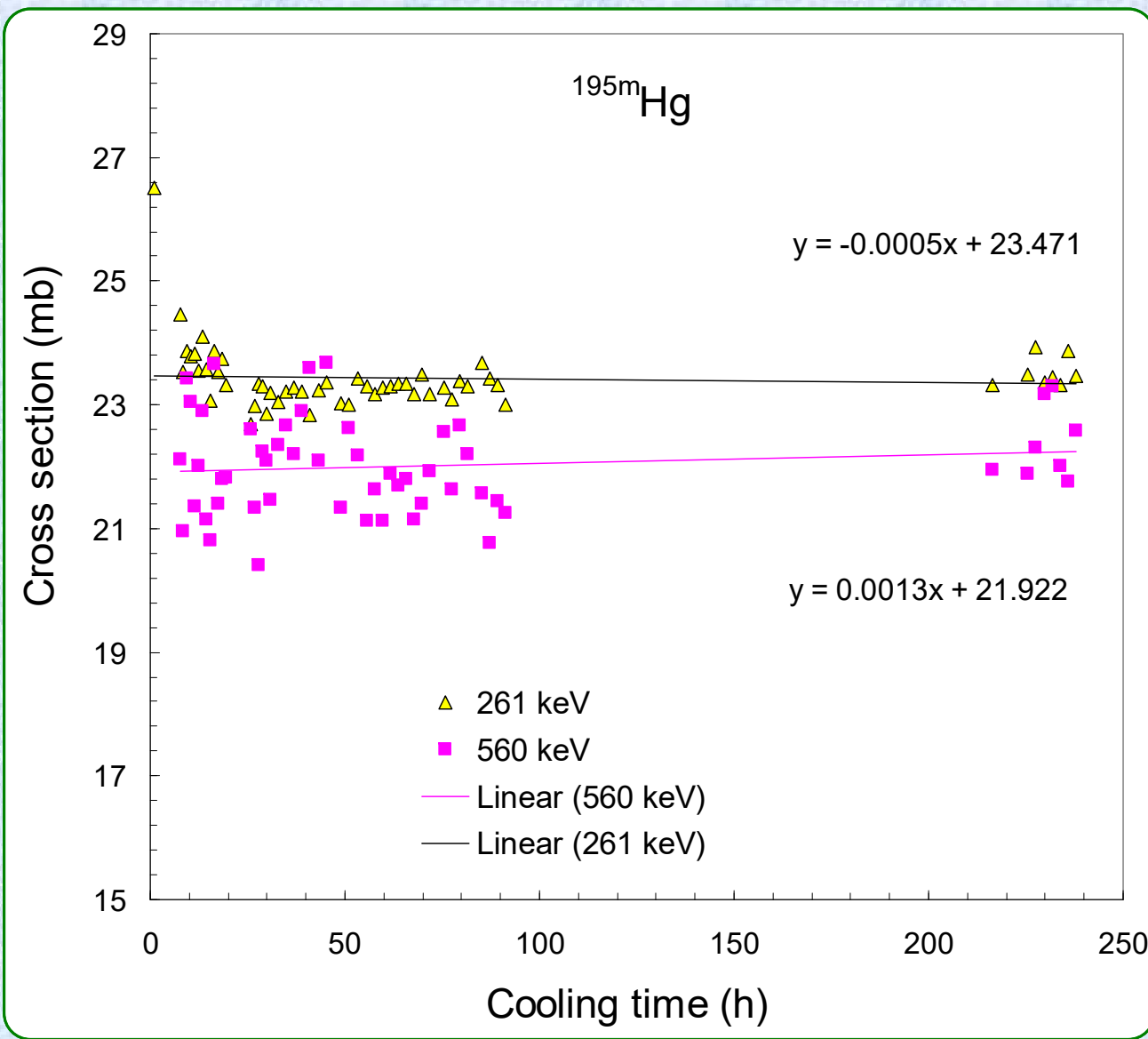
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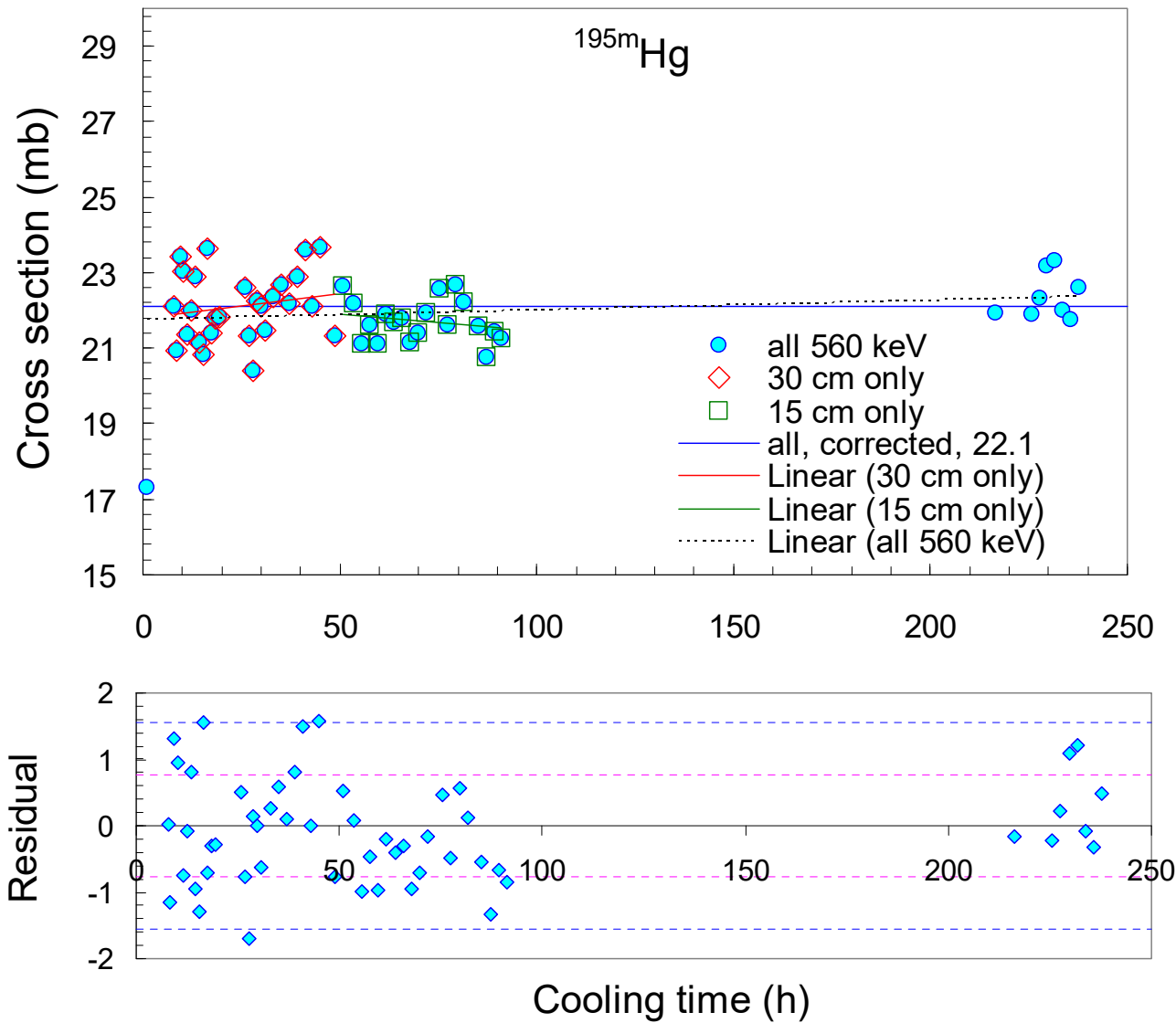
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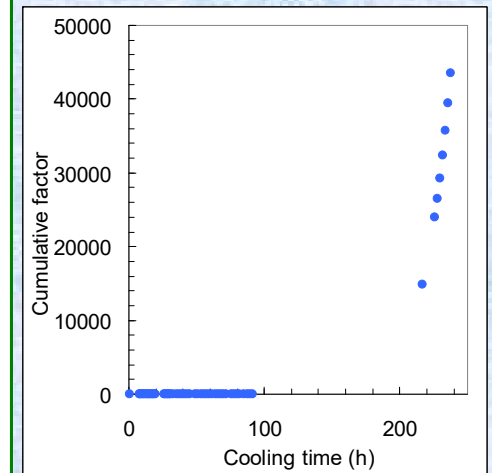
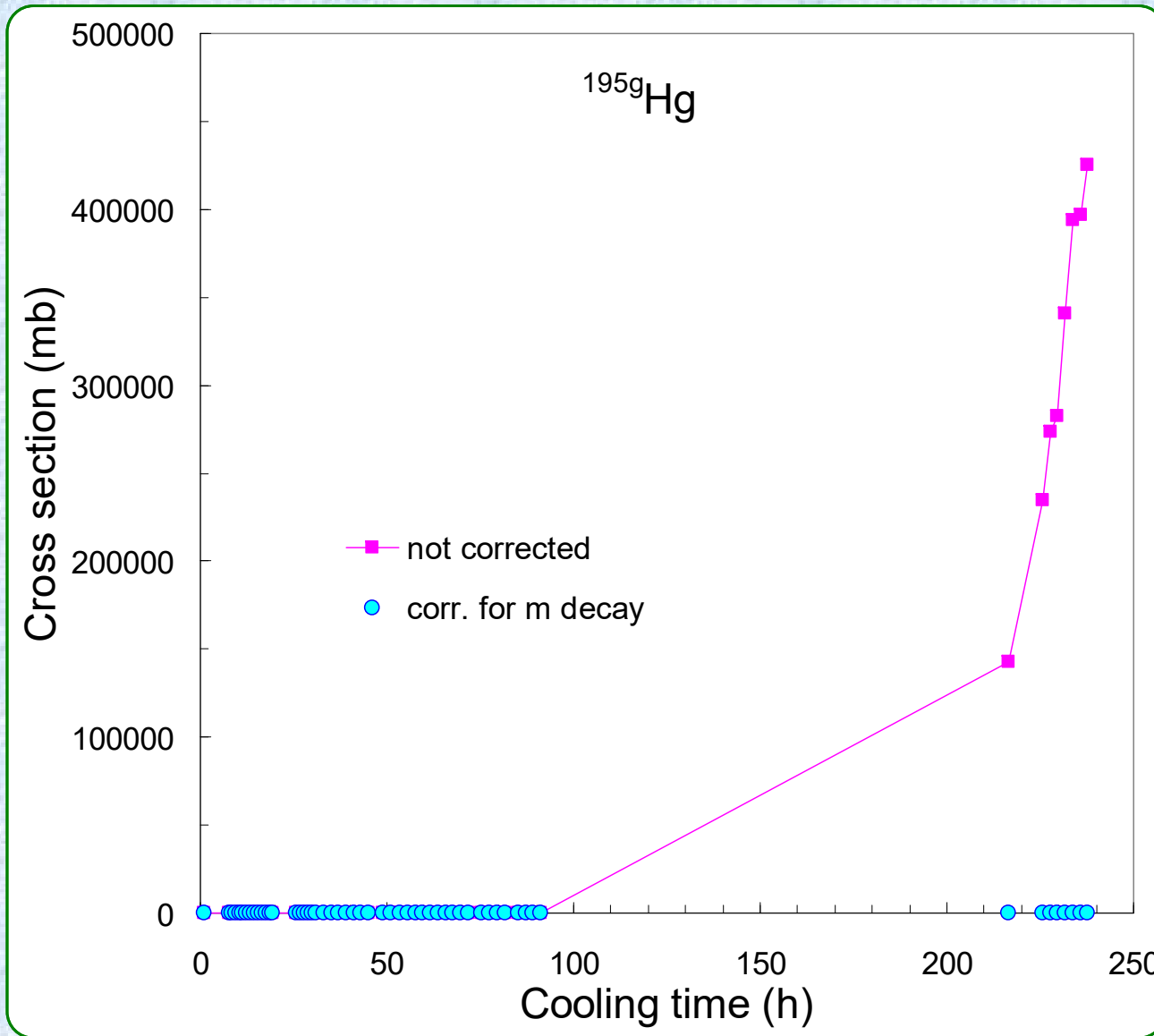


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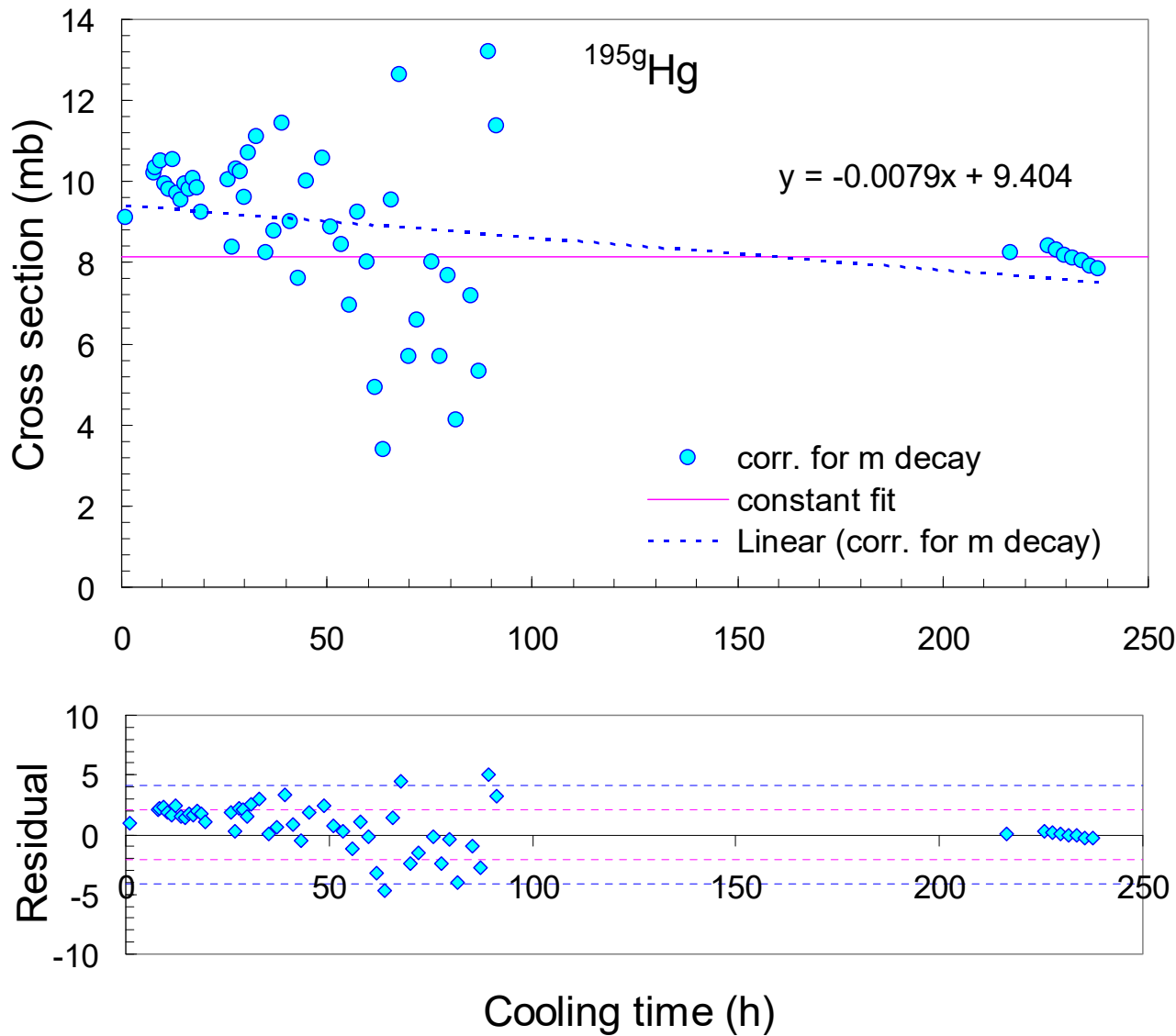
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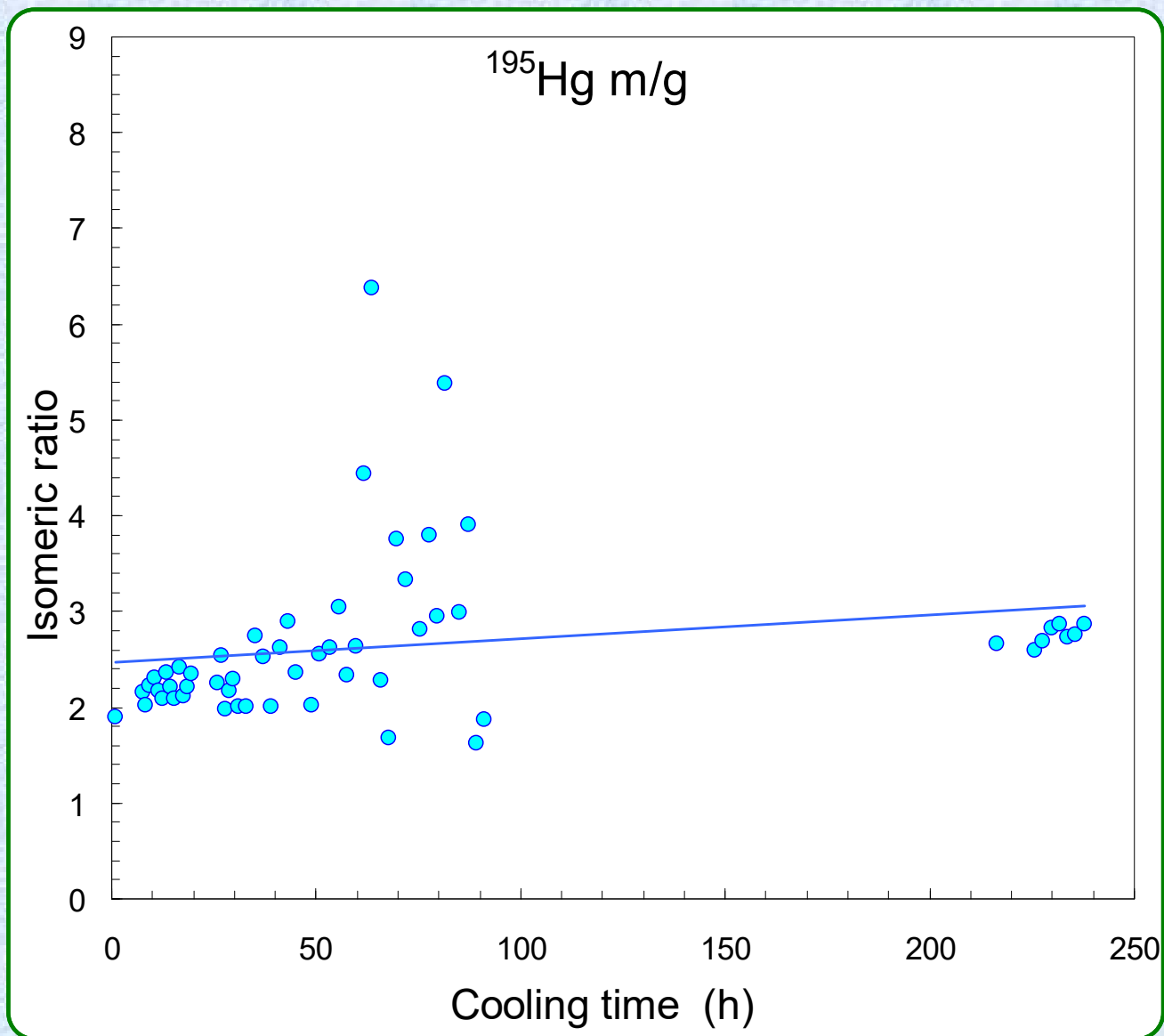
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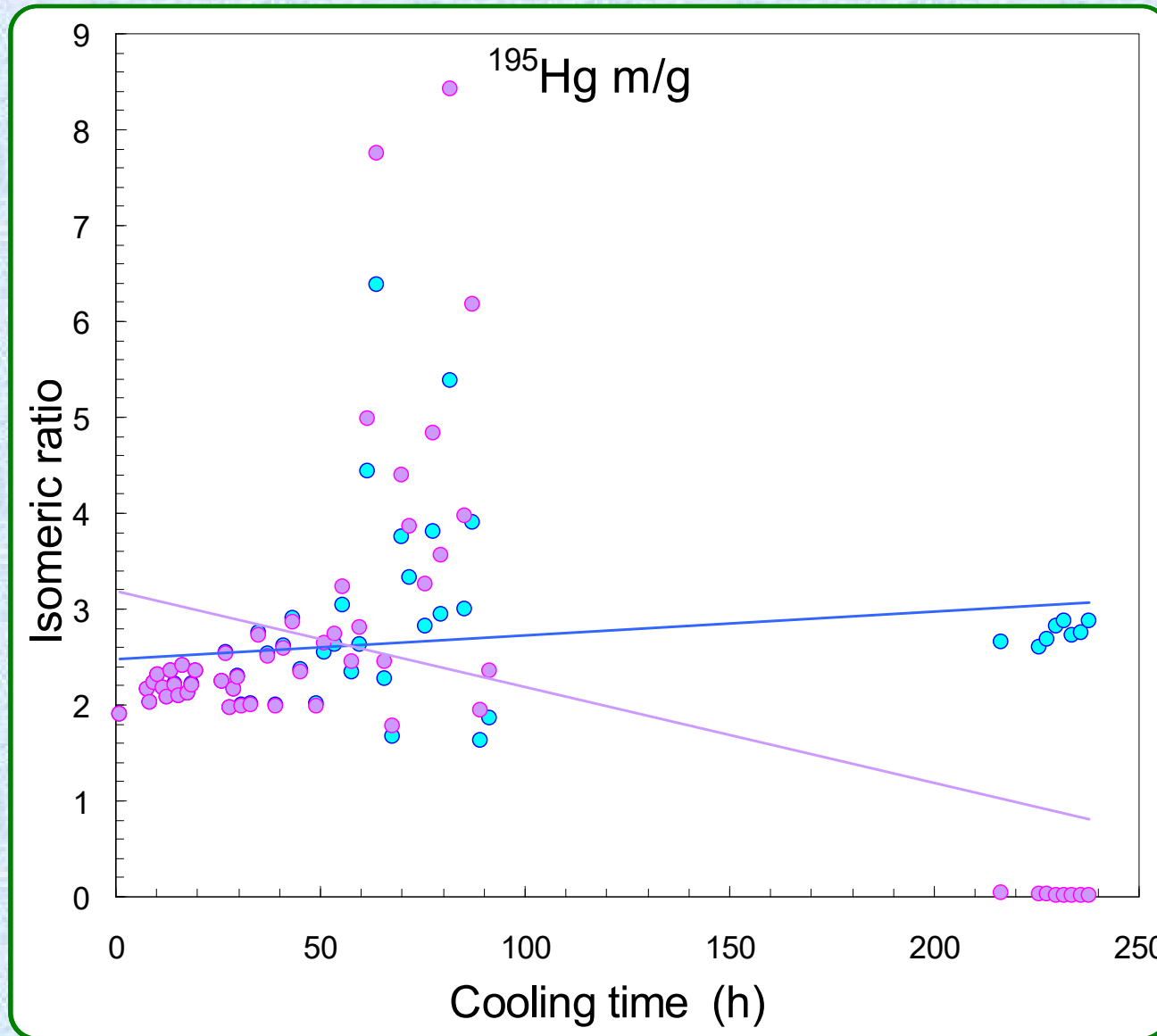


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Isomeric ratio



+1%



$$\frac{\sigma_2}{\sigma_1} = \frac{\lambda_2 T_{\gamma_2} \varepsilon_{d_1} \varepsilon_{\gamma_1} (1 - e^{-\lambda_1 t_b}) e^{-\lambda_1 t_c} (1 - e^{-\lambda_1 t_m})}{\lambda_1 T_{\gamma_1} \varepsilon_{d_2} \varepsilon_{\gamma_2} (1 - e^{-\lambda_2 t_b}) e^{-\lambda_2 t_c} (1 - e^{-\lambda_2 t_m})} - cf$$

