

B2 Samples

**NPL Environmental Radioactivity Proficiency Test
Exercise 2007 Workshop**

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- 4 nuclides: ^3H , OBT, ^{14}C , ^{36}Cl & ^{129}I
- Concentration levels: 100 – 500 Bq kg⁻¹
- Sample size: 500g Bottle
- Chemical Composition: Na₂CO₃, HEPES Buffer pH 8, NaOH, Ethanol, Methanal (formaldehyde) I⁻ & Cl⁻ and Thymidine

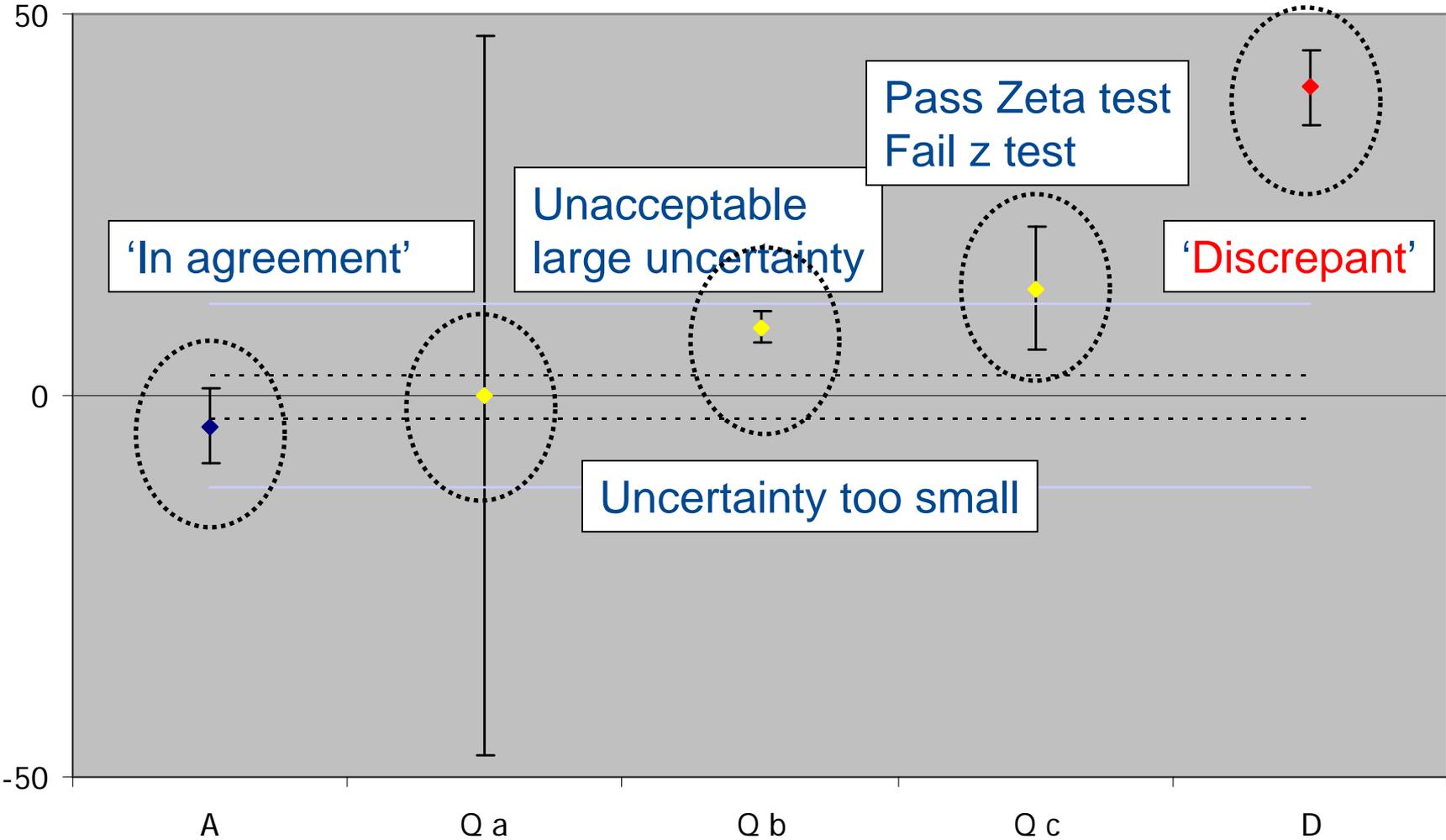


B2 composition

	(Bq kg ⁻¹)	
³ H H ₂ O	426(3)	
OBT	211(3)	(or maybe less!)
³ H Total	637(5)	
¹⁴ C	176.4(11)	
³⁶ Cl	402.2(25)	
¹²⁹ I	372(4)	

Uptake of 27 Samples, 35 % of values reported

Deviation (%)



Tritium (HTO)

14 results

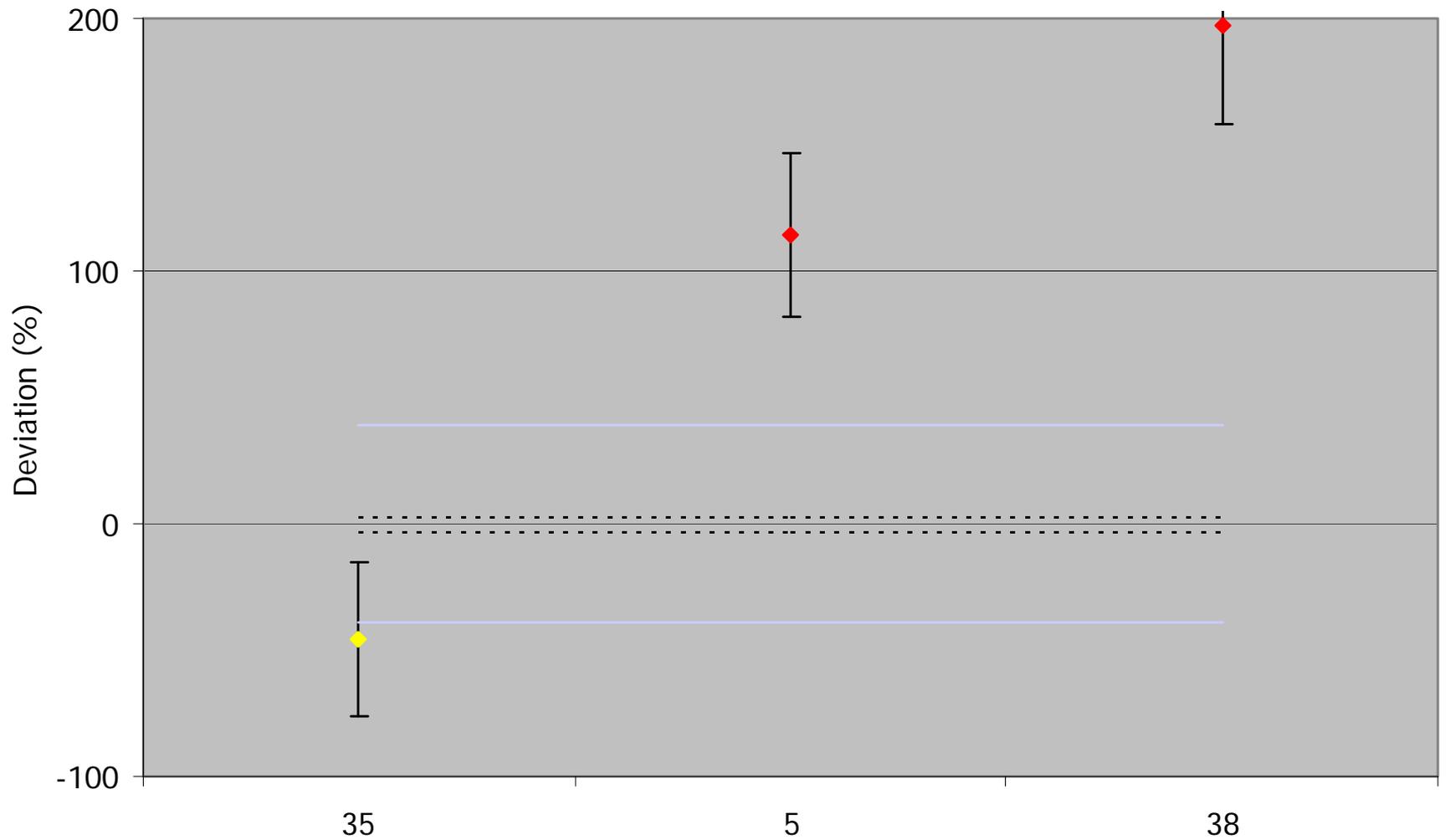
0% of the results 'in agreement'

Tritium (OBT, Thymidine)

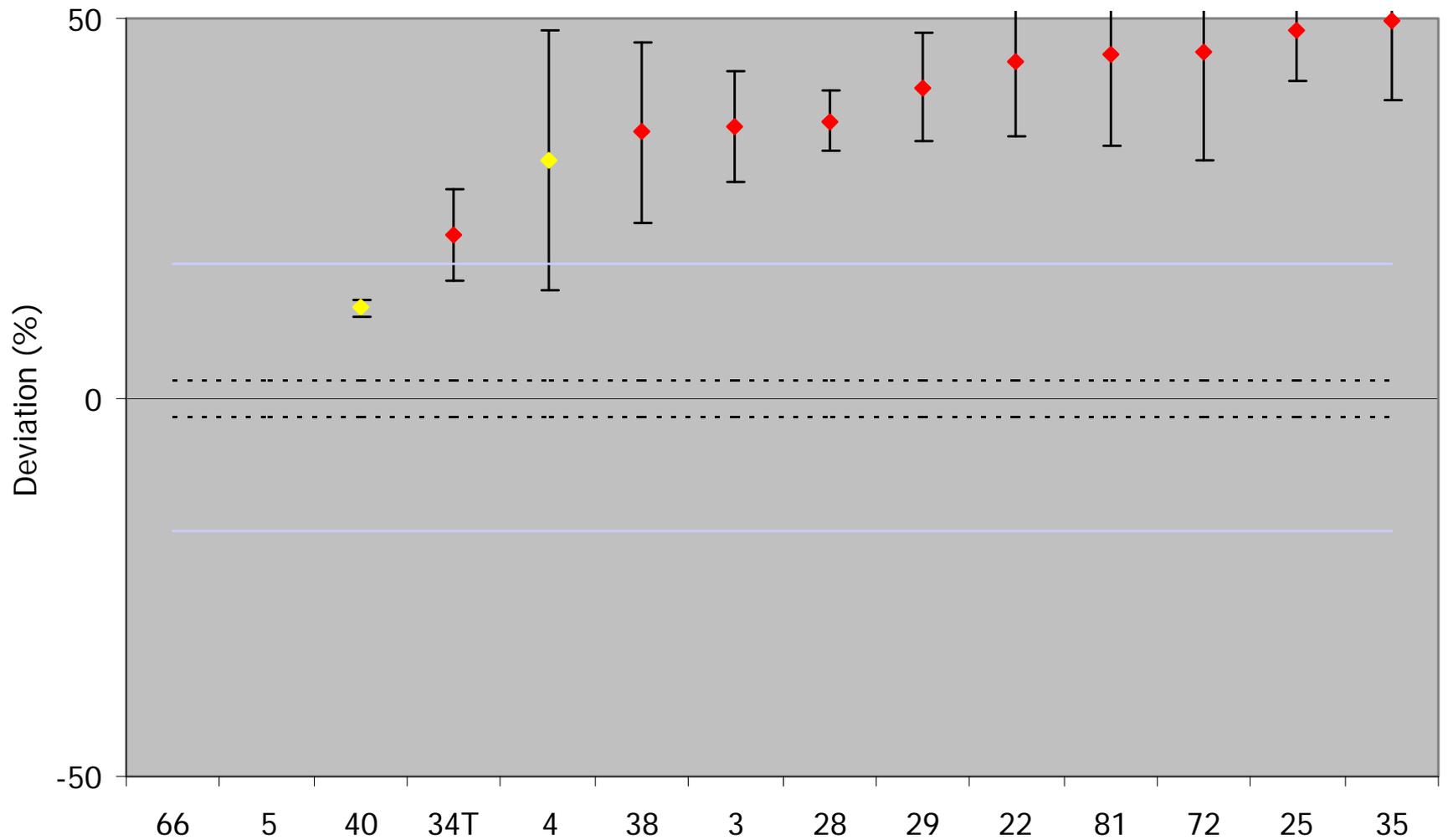
3 results

0% of the results 'in agreement'

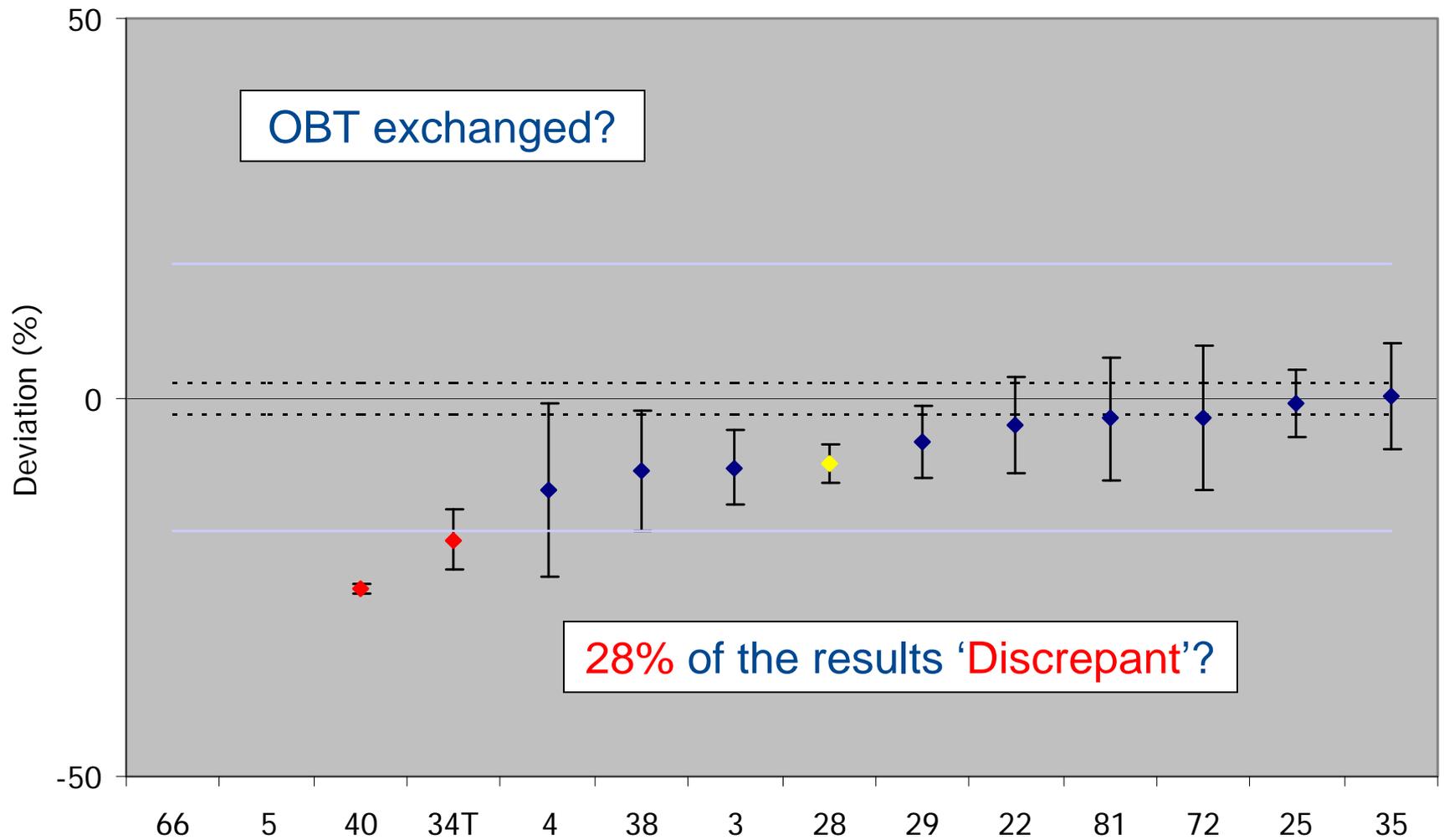
Deviation H-3 OBT B2



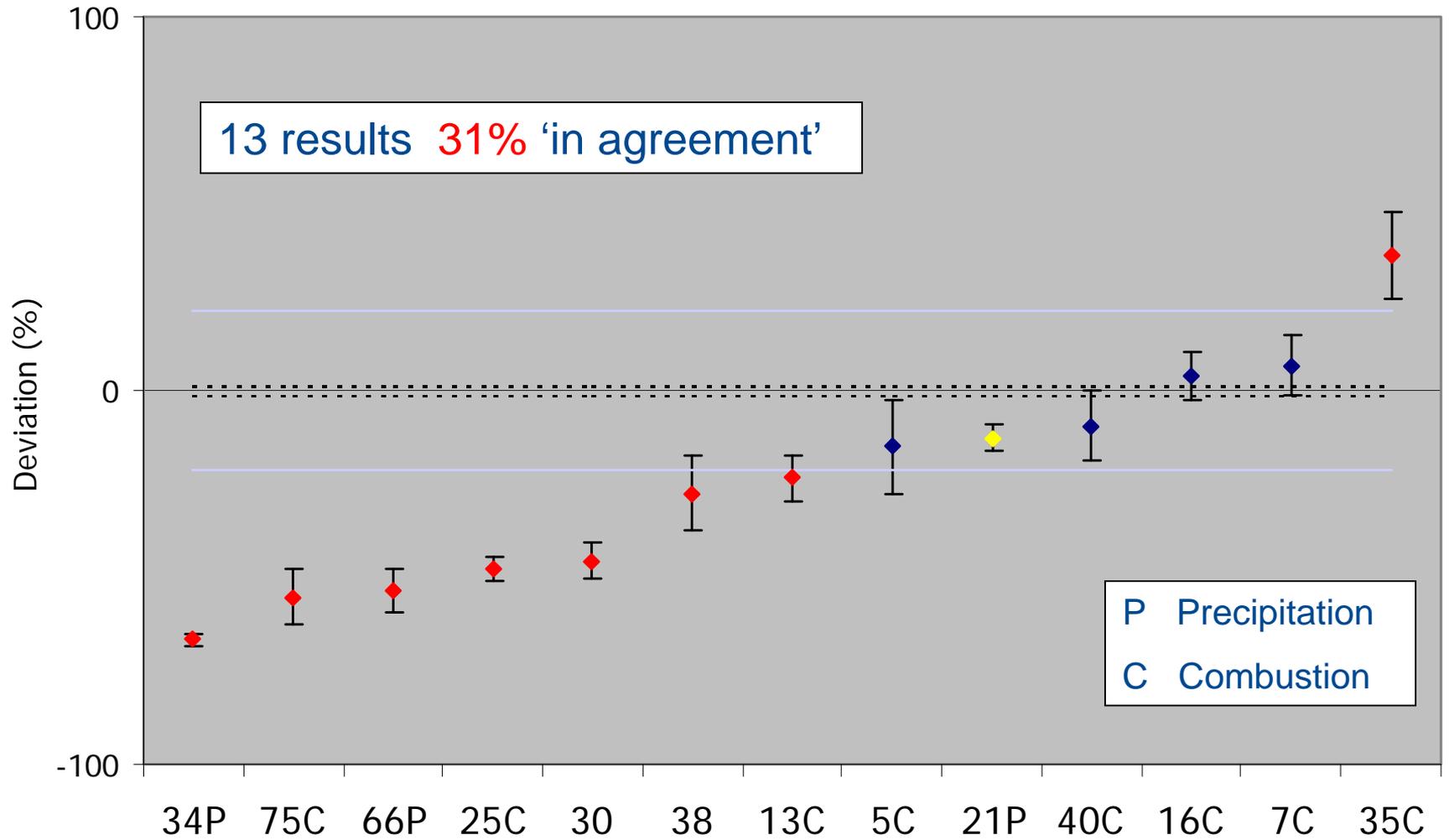
Deviation H-3 HTO B2



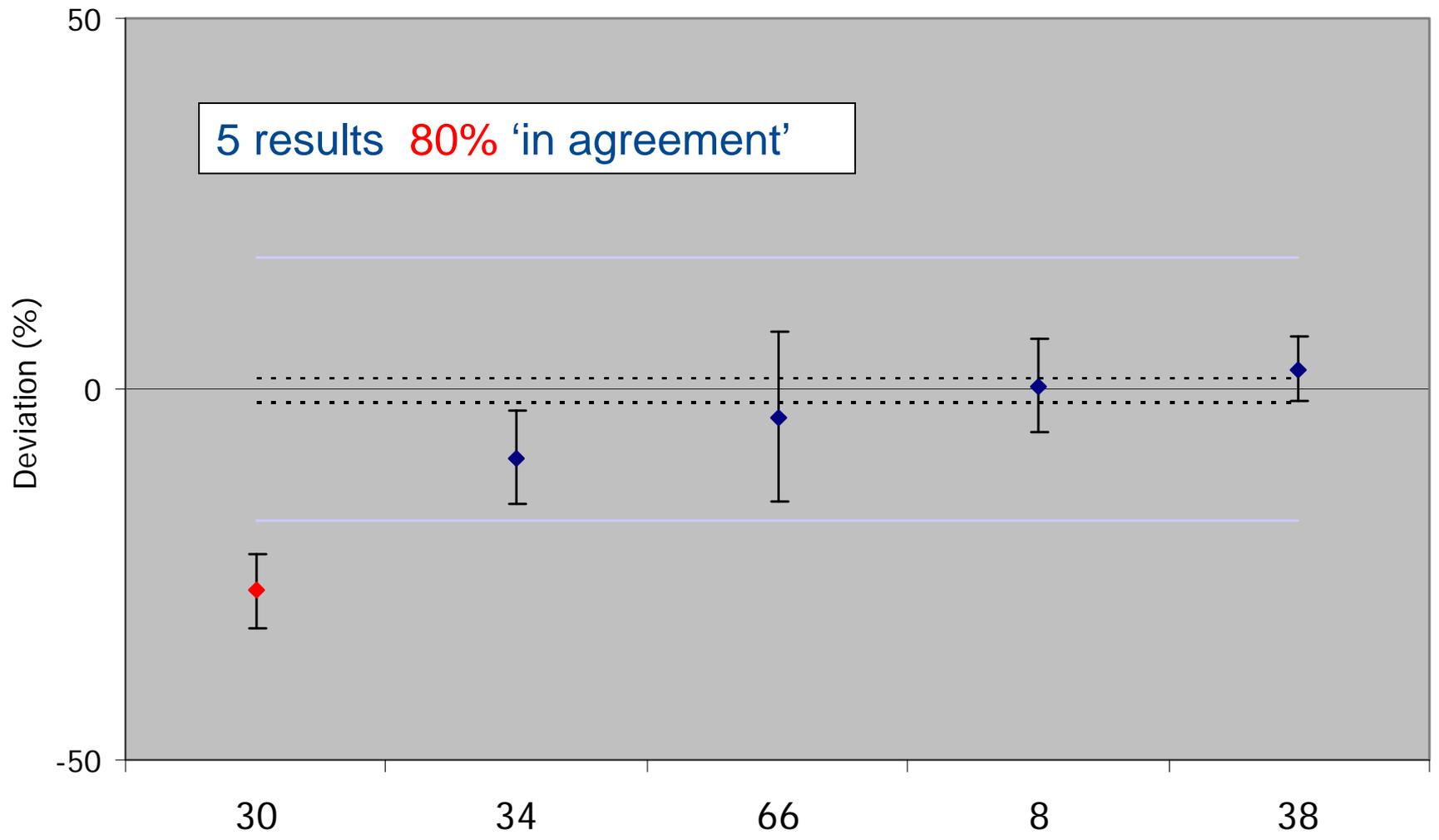
Deviation H-3 HTO B2



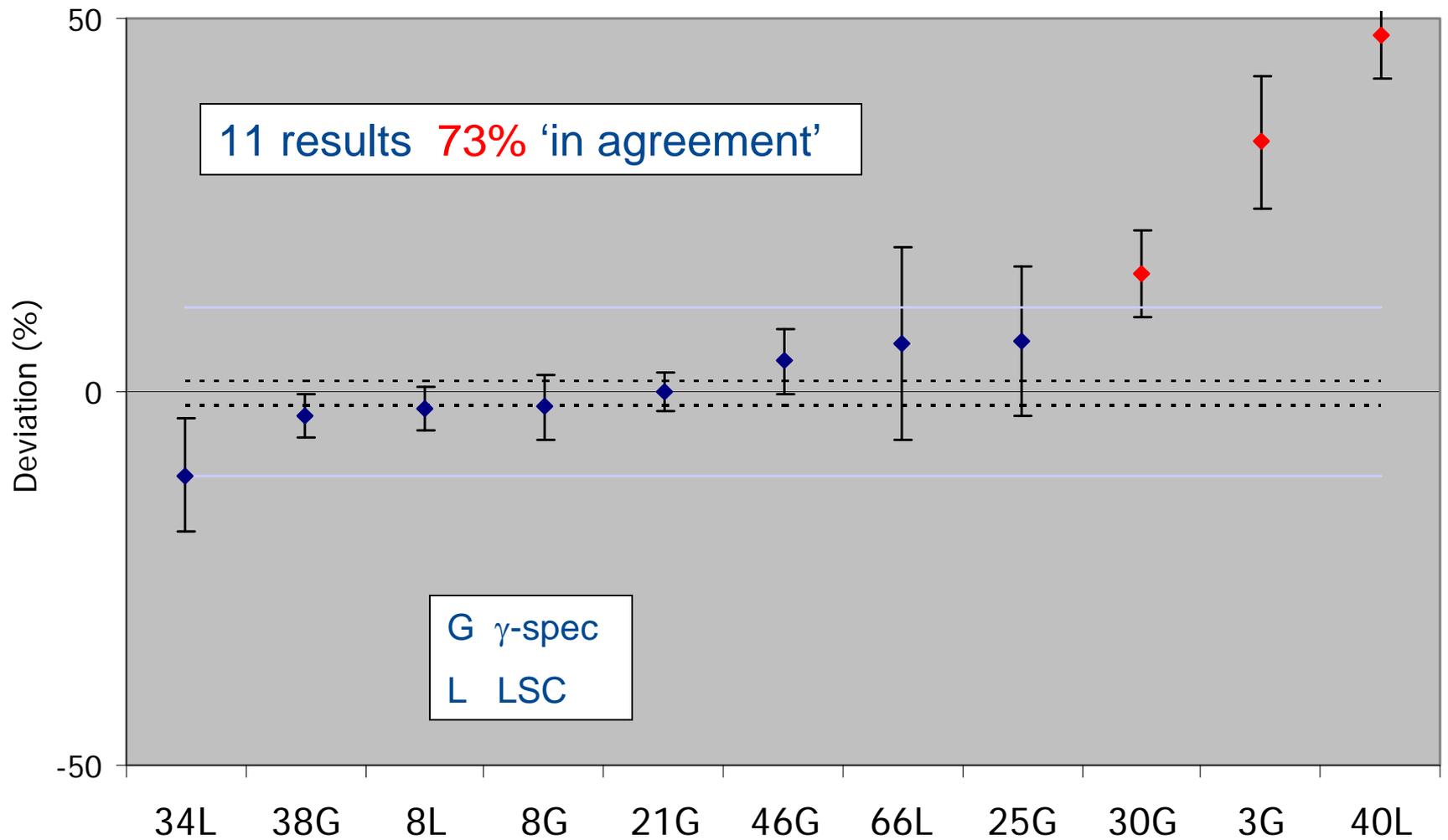
Deviation C-14 B2



Deviation CI-36 B2



Deviation I-129 B2



Results

Total		^{14}C , ^{36}Cl , ^{129}I
35%	'in agreement'	55%
9%	'questionable'	3%
57%	'discrepant'	41%

Problematic nuclides: ^3H , OBT, ^{14}C (13 %)

Less problematic: ^{36}Cl & ^{129}I (75 %)

Thank you