

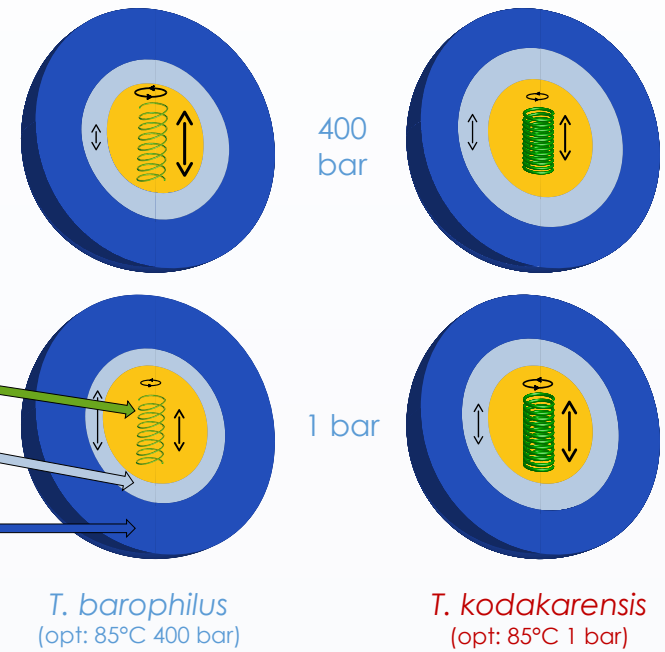
Molecular bases of proteome adaptation to high pressure in extremophilic Archaea

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What is the adaptation strategy to high pressure in Thermococcales?

Whole genome comparative studies failed (crossover adaptation?)¹

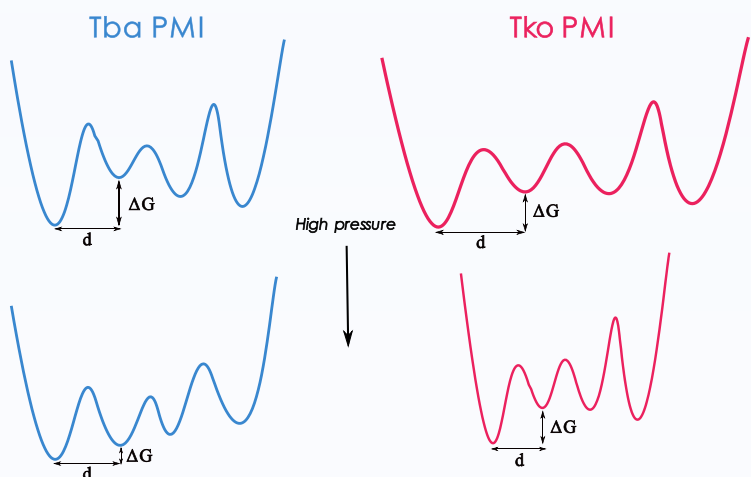
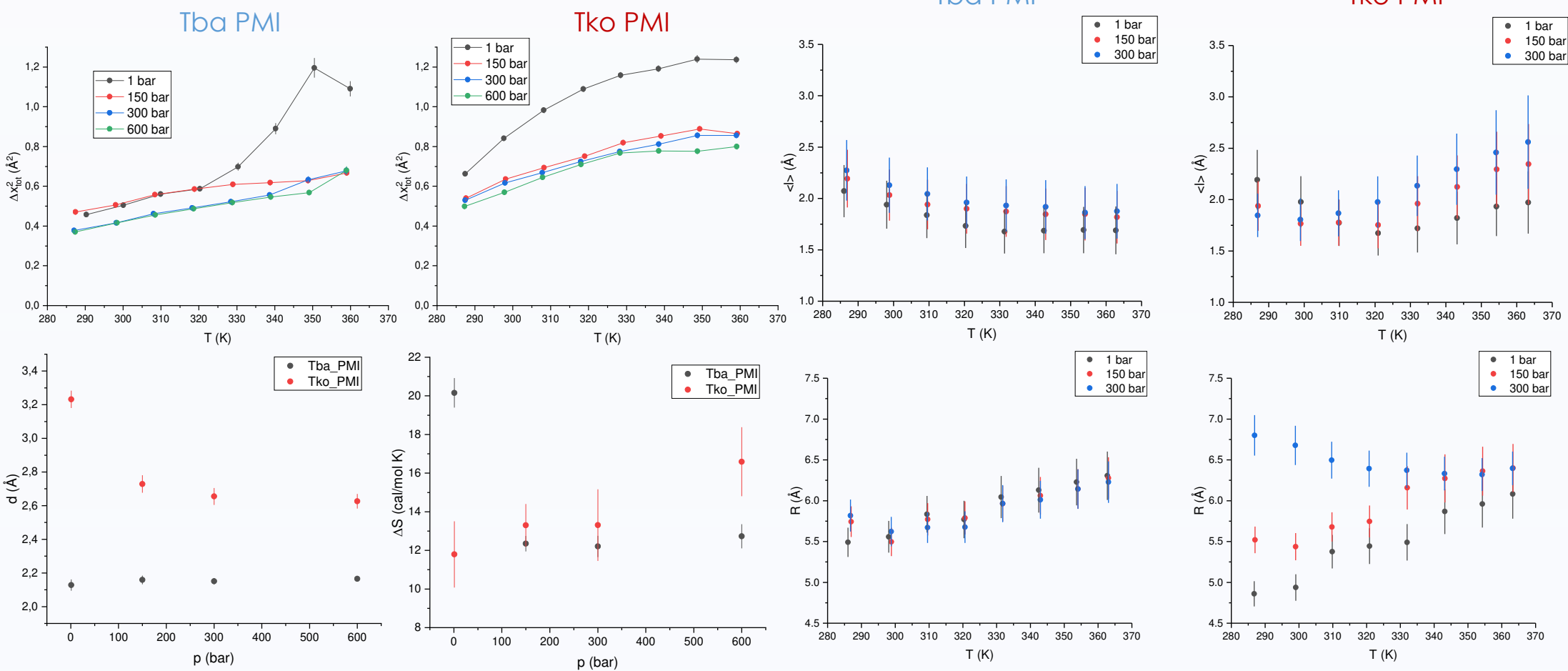
Whole cells Neutron Scattering study on nearly isogenic species²



New approach
 Study of the dynamical properties of single proteins (**Phosphomannose Isomerases**) belonging to the two species

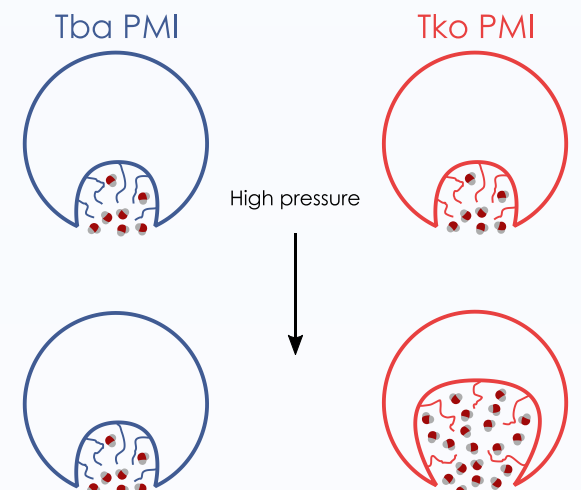
EINS on IN13
 283-363 K, 1-600 bar
 Two-state model³

QENS on IN5
 283-363 K, 1-300 bar
 Rotations + Hall-Ross⁴



Profound differences in:

- Dynamics
- Pressure response
- Interaction with water



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References

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