

Mannosidases are glycoside hydrolases ...

... that face special stereoelectronic challenges in effecting the hydrolysis of the glycosidic bond. In their Communication on page 10997 ff., C. Rovira, G. J. Davies, and co-workers use QM/MM calculations, supported by X-ray structures of the enzyme with ligands mimicking the substrate, transition state, and product, to show that the free-energy landscape of an isolated alpha-mannoside is shaped on-enzyme into a single conformational itinerary along the reaction coordinate.

