**Table S3.** Ionic interactions in endoglucanases. Ionic interactions that are only found at certain positions in endoglucanases from thermophilic bacteria (*Thermotoga maritima* (3AMH and 3AMM), *Thermococcus sp. 2319x1* (7S8K), and *Pyrococcus furiosus* (3VGI)) and absent at structurally equivalent positions in endoglucanases from mesophilic bacteria (*Streptomyces lividans* (2NLR), and *Streptomyces sp. 11AG8* (1OA4)) are given. The minimum distance (in Å) between side chain atoms of acidic and basic residues for establishing the ionic interaction is given in parentheses.

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| --- | --- |
| **Thermophilic endoglucanases** | **Mesophilic endoglucanases** |
| **3AMH** | **3AMM** | **7S8K** | **3VGI** | **2NLR** | **1OA4** |
| Lys73:Glu67 (2.75) | Lys73:Glu67 (2.76) | Lys83:Glu77 (2.75) | Lys133:Glu127 (2.82) | - | - |
| Lys73:Glu22 (2.66) | Lys73:Glu22 (2.86) | Lys83:Glu30 (2.67) | Lys133:Glu80 (2.75) | - | - |
| Arg121:Asp132 (2.74) | Arg121:Asp132 (2.87) | - | Arg183:Asp194 (3.08) | - | - |
| Lys150:Glu153 (2.65) | Lys150:Glu153 (2.63) | Lys163:Glu166 (3.16) | Lys213:Glu216 (2.91) | - | - |
| Lys186:Glu153 (2.81) | Lys186:Glu153 (2.69) | Lys199:Glu166 (2.94) | Lys249:Glu216 (2.60) | - | - |
| Lys150:Glu170 (2.76) | Lys150:Glu170 (2.91) | Lys163:Glu183 (3.43) | Lys213:Glu233 (3.68) | - | - |
| Arg184:Glu170 (2.86) | Arg184:Glu170 (2.91) | Arg197:Glu183 (2.76) | Arg247:Glu233 (2.83) | - | - |