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M.mazei ASAPALTKSQTRDRLEVLNPKDEISLNSGKP-----FRELESELLSRKKDLQQIYAEERENYLKGLER  
M.barkeriMS -PAPSLTRSQDRVEALLSPEDKISLNMAKP-----FRELEPELVTRRKNDFORLYTNDREYDLGKLER  
M.acetivorans TSAPALTKGQLDRLEGLLSPKDEISLDSEKP-----FRELESELLSRKKDLKRIYAEERENYLKGLER  
M.thermophila ASAPALTKSQIDRLQGLLSPKDEISLDSGTP-----FRKLESELLSRRRKDLKQIYAEEREHYLGKLER  
M.burtonii VPEVKYTPSQIERLKTLMSPDDKIPIQDELPE----FVKLEKELIQRDRDLKMYEEDREDRLGKLER  
D.hafniense -LSSFWTKVQYQRLEKELNASGEQLEMGFSDALSRDRAFQGI EHQMSQVQKRHLEQLRTVKHRPALLELEE  
OlaviusD1 -MSIGWTEIQOARLIELAADEAQLAGQFENAASRDKAYOOLEKQLVKIQRRKQLLRDGRPRPGICRLS

\*side chains that hydrogen bond with pyl

Vside chains that from the hydrophobic pocket

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M.mazei EITRFVDRGFLEIKSPILIPLEYIERMGIDNDELTSKQIFRVDNKFCRLRPLAPNLYNYLRKLDRALPD  
M.barkeriMS DITKFFVDRGFLEIKSPILIPAEYVERMGINNDTELSKQIFRVDNKFCRLRPLAPNLYNYLRKLDRI L PG  
M.acetivorans EITKFFVDRGFLEIKSPILIPAEYVERMGINSDELTSKQVFRIDKNFCRLRPLAPNLYNYLRKLDRALPD  
M.thermophila EITKFFVDRGFLEIKSPILIPMEYIERMGIDNDKELSKQIFRVDNFCLRPLAPNLYNYLRKLDRALPD  
M.burtonii DITEFVDRGFLEIKSPIMIPFEYIERMGIDKDDHLNKQIFRVEDSMCLRPLAPNLYNYLRKLDKVLDP  
D.hafniense GLAKALHQQGFVQVVTPTIITKSALAKMTIGEDHPLFSQVFWLDGKKCLRPLAPNLYTLWRELERLWDK  
OlaviusD1 RLTEALVQNGFVQVATPTIILSKGLLAKMSIDDDHPLASQIFWLGNDFCLRPLAPNLYFVLDKLLRLWEK

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■ residues forming the putative tetramer interface

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M.mazei PIKIFEIGPCYRKESDGKEHLEEF TMLNFCQMGSG--CTRENLESIITDFLNHLGI--DFKIVGDSMCMVYG  
M.barkeriMS PIKIFEVGPYRKESDGKEHLEEF TMLNFCQMGSG--CTRENLEALIKEFLDYLEI--DFEIVGDSMCMVYG  
M.acetivorans PIKIFEIGPCYRKESDGKEHLEEF TMLNFCQMGSG--CTRENLEAII TEFLNHLGI--DFEIVGDSMCMVYG  
M.thermophila PIKIFEIGPCYRKESDGKEHLEEF TMLNFCQMGSG--CTRENLEAIIKDFLDYLG I--DFEIVGDSMCMVYG  
M.burtonii PIRIFEIGPCYRKESDGSHLEEF TMLNFCQMGSG--CTRENLEALIDFLEHLGI--EYIEADNCMVYG  
D.hafniense PIRIFEIGTCYRKESQGAQHLNEF TMLNLTELGTPLERHQRLEDMARWVLEAAGIREFELVTESSVYVG  
OlaviusD1 PVRIFEIGSCFRKESQGAQHSNEF TMLNLVEMGLAEDQRQSRLEEMAALVTAAGVDDYIIQTESAVYG

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M.mazei DTLDVMHGD--LELSSAVVGP I PLDREWGIDKPWIGAGFGLERLLKVKHDFKNIKRAARSESYNGISTNL  
M.barkeriMS DTLDIMHGD--LELSSAVVGPVSLDREWGIDKPWIGAGFGLERLLKVMHGFKNIKRAARSESYNGISTNL  
M.acetivorans NTLDVMHDD--LELSSAVVGPVPLDREWGIDKPWIGAGFGLERLLKVMHGFKNIKRAARSESYNGISTNL  
M.thermophila DTLDVMHGD--LELSSAVVGPVPMRDWGIKWPWIGAGFGLERLLKVMHNFKNIKRAARSESYNGISTNL  
M.burtonii DTIDIMHGD--LELSSAVVGP I PLDREWGVNKPWVGAGFGLERLLKVRHNYTNIRRASRSELYNGINTNL  
D.hafniense DTVDVMKGD--LELASGAMGPHFLDEKWEIVDPWVGLGFGLERLLMIREGTQHVQSMARSLSYLDGVRLNI  
OlaviusD1 ETIDILAGEDRMEIGSAAMGPHVLDQAWQVTD AWMGIGFGLERLLMILENSRSLGRMGRSLGYLDGIRLNI

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