**Supplementary Fig 1.**

**Alignment of LCYB from tomato (top line) and tobacco (bottom line), using EMBOSS Water.**

**EMBOSS\_001 1 MDTLLKTPNKLEFLHPVHGFSVKASSFNSVKPHKFGSRKICENWGKGVCV 50**

**|||||||||.||||:|.|||:||||:|.|.|.|.|||||.||..|:.|||**

**EMBOSS\_001 1 MDTLLKTPNNLEFLNPHHGFAVKASTFRSEKHHNFGSRKFCETLGRSVCV 50**

**EMBOSS\_001 51 KAKSSALLELVPETKKENLDFELPMYDPSKGLVVDLAVVGGGPAGLAVAQ 100**

**|..||||||||||||||||||||||||||||:||||||||||||||||||**

**EMBOSS\_001 51 KGSSSALLELVPETKKENLDFELPMYDPSKGVVVDLAVVGGGPAGLAVAQ 100**

**EMBOSS\_001 101 QVSEAGLSVVSIDPSPKLIWPNNYGVWVDEFEAMDLLDCLDATWSGTVVY 150**

**|||||||||.||||:|||||||||||||||||||||||||||||||..||**

**EMBOSS\_001 101 QVSEAGLSVCSIDPNPKLIWPNNYGVWVDEFEAMDLLDCLDATWSGAAVY 150**

**EMBOSS\_001 151 IDDNTTKDLDRPYGRVNRKQLKSKMMQKCILNGVKFHHAKVIKVIHEEAK 200**

**|||||.|||.||||||||||||||||||||:||||||.||||||||||:|**

**EMBOSS\_001 151 IDDNTAKDLHRPYGRVNRKQLKSKMMQKCIMNGVKFHQAKVIKVIHEESK 200**

**EMBOSS\_001 201 SMLICNDGVTIQATVVLDATGFSRCLVQYDKPYKPGYQVAYGILAEVEEH 250**

**||||||||:|||||||||||||||.||||||||.||||||||||||||||**

**EMBOSS\_001 201 SMLICNDGITIQATVVLDATGFSRSLVQYDKPYNPGYQVAYGILAEVEEH 250**

**EMBOSS\_001 251 PFDTSKMVLMDWRDSHLGNNMELKERNRKVPTFLYAMPFSSNKIFLEETS 300**

**|||.:|||.||||||||.||.:|||||.::||||||||||||:|||||||**

**EMBOSS\_001 251 PFDVNKMVFMDWRDSHLKNNTDLKERNSRIPTFLYAMPFSSNRIFLEETS 300**

**EMBOSS\_001 301 LVARPGLRMDDIQERMVARLNHLGIKVKSIEEDEHCVIPMGGSLPVIPQR 350**

**||||||||:|||||||||||||||||||||||||||:|||||.|||:|||**

**EMBOSS\_001 301 LVARPGLRIDDIQERMVARLNHLGIKVKSIEEDEHCLIPMGGPLPVLPQR 350**

**EMBOSS\_001 351 VVGTGGTAGLVHPSTGYMVARTLAAAPVVANAIIHYLGSEKDLLGNELSA 400**

**|||.|||||:||||||||||||||||||||||||.|||||:...|||||.**

**EMBOSS\_001 351 VVGIGGTAGMVHPSTGYMVARTLAAAPVVANAIIQYLGSERSHSGNELST 400**

**EMBOSS\_001 401 AVWKDLWPIERRRQREFFCFGMDILLKLDLPATRRFFDAFFDLEPRYWHG 450**

**||||||||||||||||||||||||||||||||||||||||||||||||||**

**EMBOSS\_001 401 AVWKDLWPIERRRQREFFCFGMDILLKLDLPATRRFFDAFFDLEPRYWHG 450**

**EMBOSS\_001 451 FLSSRLYLPELIFFGLSLFSRASNTSRIEIMTKGTLPLVNMINNLLQDTE 500**

**||||||:|||||.|||||||.||||||.|||||||:||||||||||||.|**

**EMBOSS\_001 451 FLSSRLFLPELIVFGLSLFSHASNTSRFEIMTKGTVPLVNMINNLLQDKE 500**