



**Supplementary Data 3. Multidimensional scaling plot for gene expression profiles of 5 tissues (leaves, flowers, stems, seedling roots, and seedling shoots) of 6 flax cultivars/lines (#3896, Alizee, Atlant, Diplomat, LM98, and Universal) from the current project combined with the data from four NCBI BioProjects, in which transcriptome sequencing was performed for flax shoots (PRJNA229810), bast fiber and xylem (PRJNA251268), roots (PRJNA412801), and developing seeds (PRJNA539945).** Different tissues from the current project, as well as four NCBI BioProjects, are marked with different colors. Current project: leaves – blue, flowers – dark blue, stems – green, seedling roots – cyan, seedling shoots – dark green; NCBI BioProjects: shoots (PRJNA229810) – lime, bast fiber and xylem (PRJNA251268) – light orange, roots (PRJNA412801) – light green, seeds (PRJNA539945) – orange.

### *Samples used for the multidimensional scaling plot*

BioProject	Tissue	Samples
<b>Current project (PRJNA634481)</b>	leaves	n3896_leaves Alizee_leaves Atlant_leaves Diplomat_leaves LM98_leaves Universal leaves

	flowers	n3896_flowers Alizee_flowers Atlant_flowers Diplomat_flowers LM98_flowers Universal_flowers
	stems	n3896_stems Alizee_stems Atlant_stems Diplomat_stems LM98_stems Universal_stems
	seedling roots	n3896_seedling_roots Alizee_seedling_roots Atlant_seedling_roots Diplomat_seedling_roots LM98_seedling_roots Universal_seedling_roots
	seedling shoots	n3896_seedling_shoots Alizee_seedling_shoots Atlant_seedling_shoots Diplomat_seedling_shoots LM98_seedling_shoots Universal_seedling_shoots
<b>PRJNA229810</b>	shoots	SRR1038482 SRR1056618 SRR1056619 SRR1056620 SRR1056621 SRR1056622 SRR1056623 SRR1056624 SRR1056625 SRR1421513
<b>PRJNA251268</b>	bast fiber and xylem	SRR1587386 SRR1587387 SRR1587388 SRR1587389 SRR1587390 SRR1587391 SRR1587392 SRR1587393 SRR1587394 SRR1587395 SRR1587396 SRR1587397 SRR1587398 SRR1587399 SRR1587400 SRR1587401 SRR1587402 SRR1587403

<b>PRJNA412801</b>	roots (control)	401-449-TOST-control_S8 403-451-TOST-control_S22 409-3896-control_S12 411-3896-control_S18 413-Dakota-control_S15 415-Dakota-control_S16 417-3896-x-AP5-control_S6 419-3896-x-AP5-control_S1 421-Dakota-8-x-AP5-control_S11 423-Dakota-8-x-AP5-control_S24 454-AP5-control_S7 456-AP5-control_S14
	roots (infected with <i>Fusarium oxysporum</i> f. sp. <i>lini</i> )	425-459-TOST-Fusarium_S19 427-461-TOST-Fusarium_S21 433-3896-Fusarium_S13 435-3896-Fusarium_S10 437-Dakota-Fusarium_S3 439-Dakota-Fusarium_S20 441-3896-x-AP5-Fusarium_S2 443-3896-x-AP5-Fusarium_S4 445-Dakota-8-x-AP5-Fusarium_S23 447-Dakota-8-x-AP5-Fusarium_S17 464-AP5-Fusarium_S9 466-AP5-Fusarium_S5
<b>PRJNA539945</b>	seeds	SRR8978764 SRR8978765 SRR8978766 SRR8978767 SRR8978768 SRR8978769 SRR8978770 SRR8978771