



**Figure S1.** The biosynthetic pathway of phylloquinone. DHNA-CoA thioesterase (boxed) has so far been characterized only in the cyanobacterium *Synechocystis* sp. PCC 6803, where it is encoded by gene *slr0204*. Obvious orthologs of the cyanobacterial enzyme are missing in plants. CoA, coenzyme A; DHNA, 1,4-dihydroxy-2-naphthoate; OSB, *o*-succinylbenzoate; SAH, *S*-adenosyl homocysteine; SAM, *S*-adenosyl methionine; SEPHCHC, 2-succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylic acid; SHCHC, (1*R*,6*R*)-2-succinyl-6-hydroxy-2,4-cyclohexadiene-1-carboxylic acid.