

Figure S1. Building block and the end products of Shikimate and Acetate Polymalonate Pathway, Menadione & Juglone and 7-methyl juglone & Plumbagin respectively.

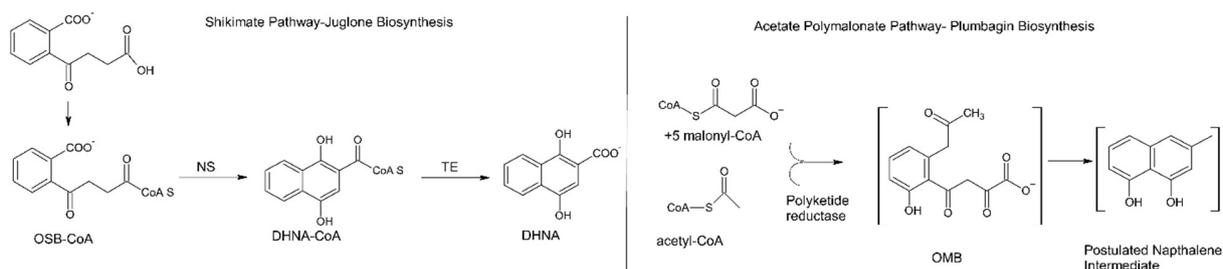


Figure S2. Similar intermediates in Juglone and Plumbagin Biosynthesis; NS – Naphthoate Synthase; TS – Thioesterase

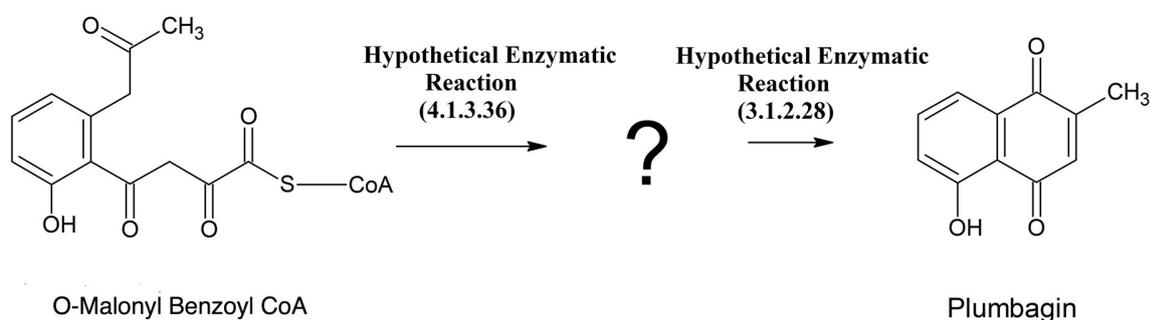


Figure S3. Hypothetical Enzyme Reaction for Biosynthesis of Plumbagin. Formation of plumbagin from OMB CoA in two reaction steps

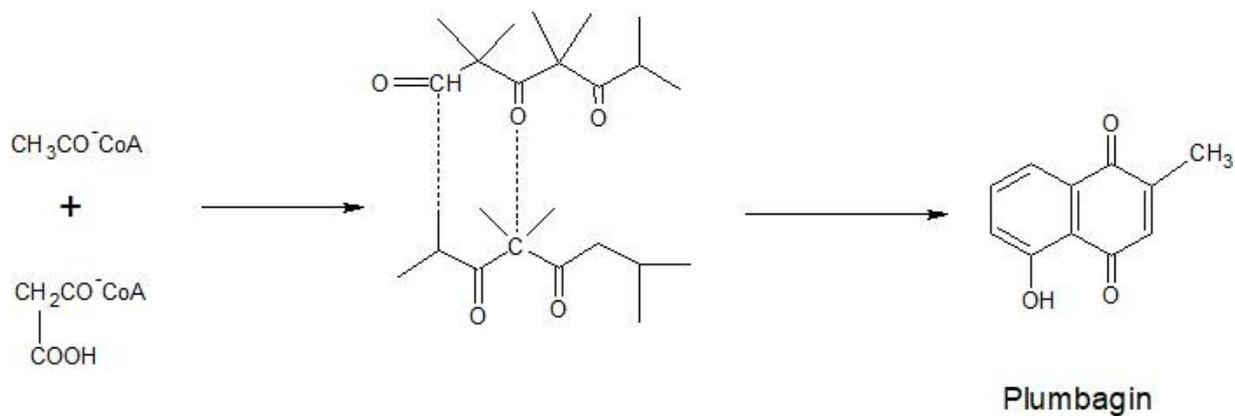


Figure S4. Acetate Polymalonate Pathway for synthesis of Plumbagin (Dewick, et al., 2002, Aphacha, et al., 2008)

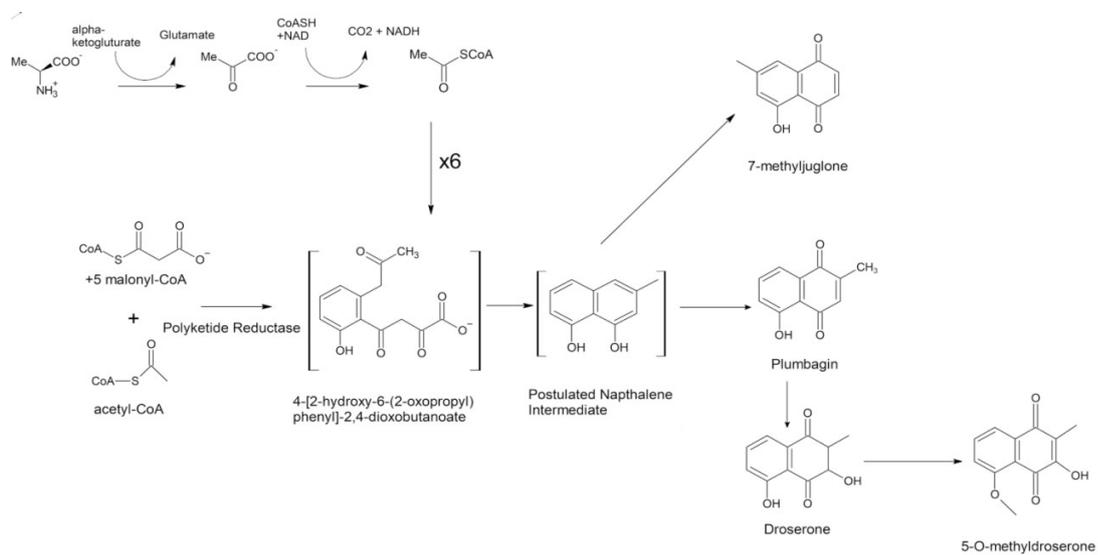


Figure S5. A proposed biosynthetic route for Plumbagin synthesis (Widhalm, et al., 2016, McCoy, et al., 2018)

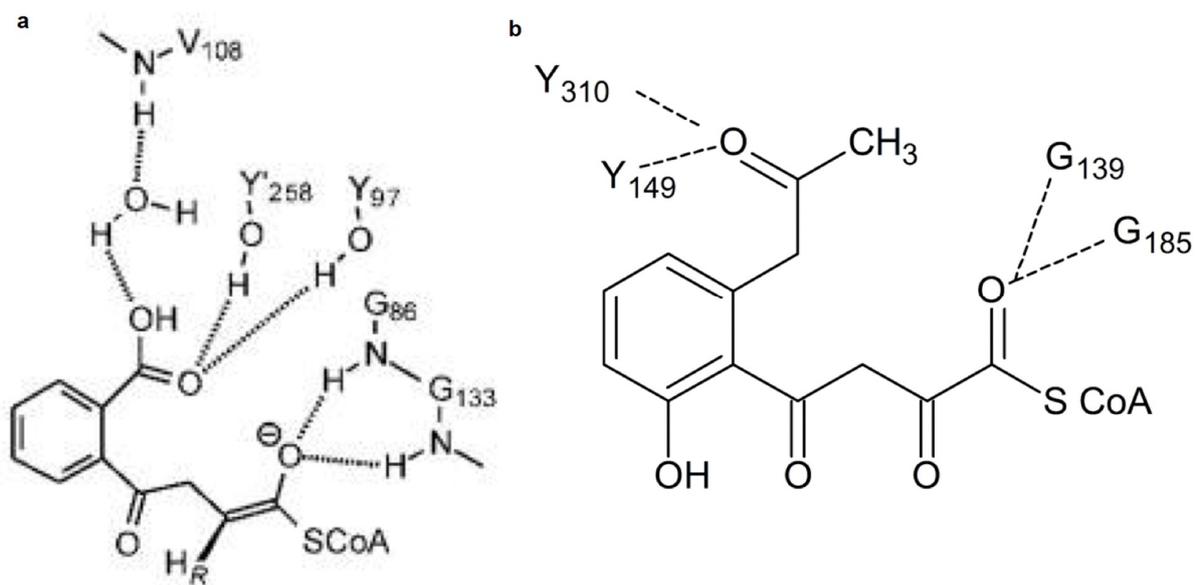


Figure S6. Docked conformations of **A.** NS with OSBCoA as reported by Li, HJ et al., 2011. **B.** NS with OMBCoA as per our studies. **B.** Shows identical interactions with as in A with, Gly and Tyr binding OMBCoA as with OSBCoA as in JBP