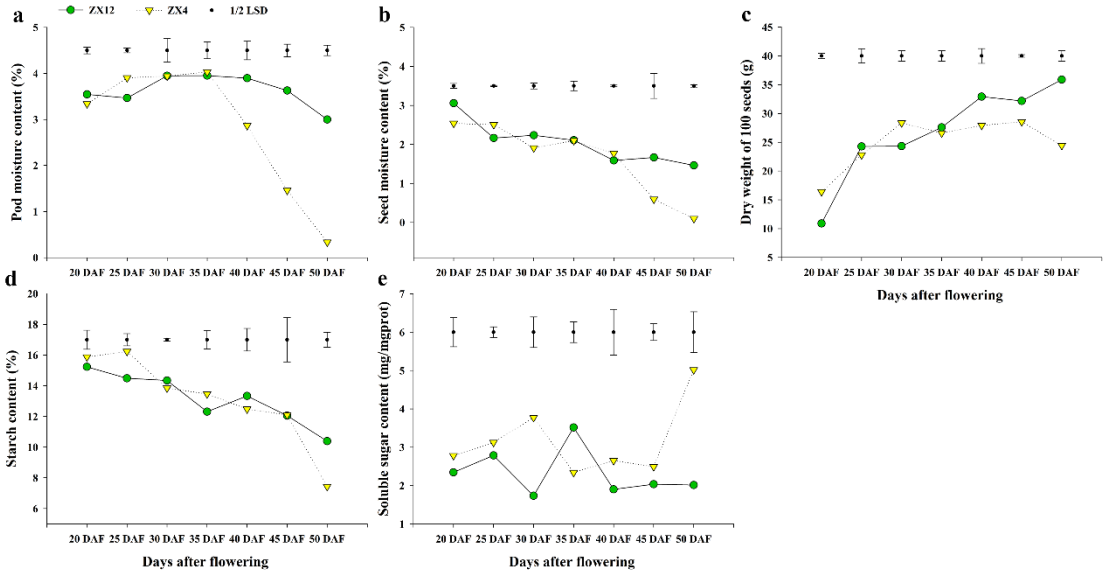

Fig S1 Seed characters between ZX4 and ZX12 at different maturity stages. a Moisture content of pods. b Moisture content of seeds. c Dry weight of 100 seeds. d Starch content of seeds. e Soluble sugar content of seeds.

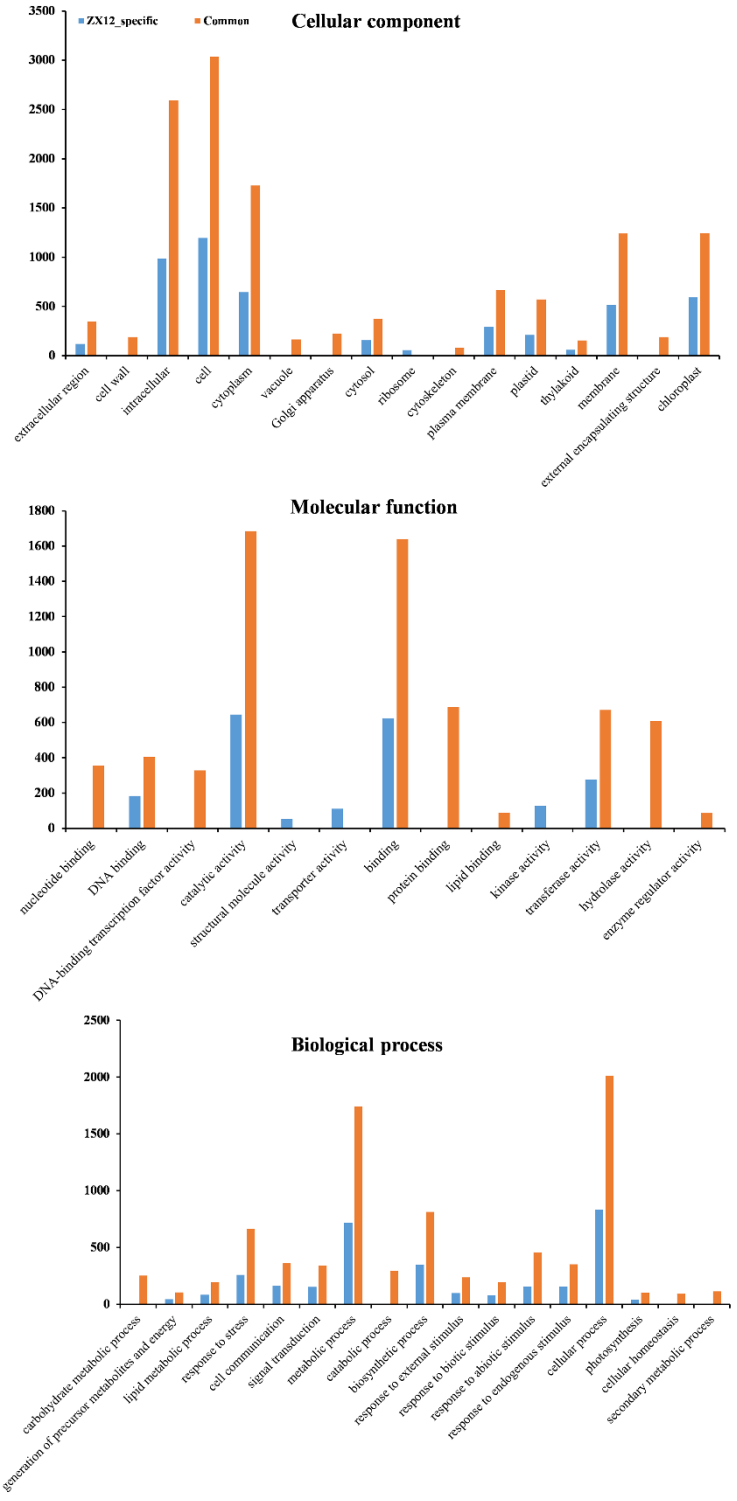

Fig S2 GO enrichment analysis of differential genes between ZX12 and ZX4

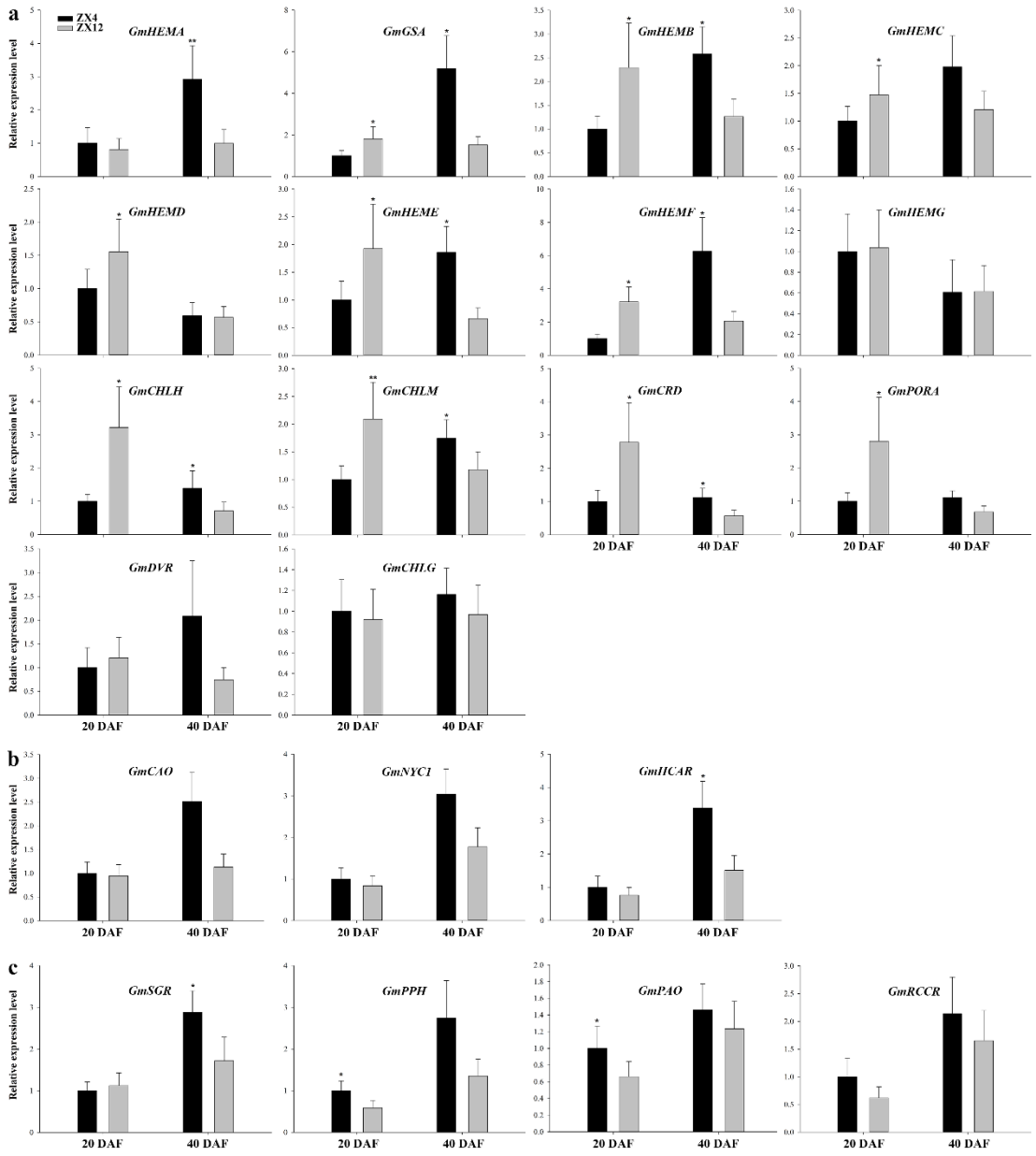

Fig S3 Expression level of Chl metabolism key genes validated by RT-qPCR in ZX12 and ZX4 seeds at 20 and 40 DAF time. a The expression level of Chl synthesis genes. b The expression level of Chl cycle genes. c The expression level of Chl degradation genes. Values represent the means ± SE of three biological replicates. Means with common letters are not significantly different at $P \leq 0.05$.

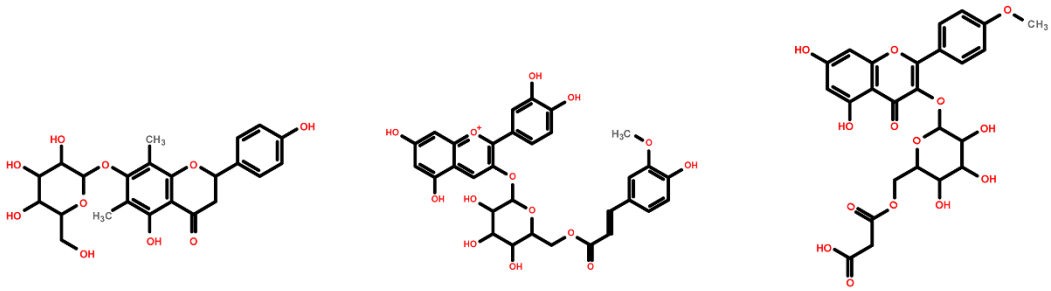

Fig S4 Chemical structures of three flavonoid metabolites unique to ZX12