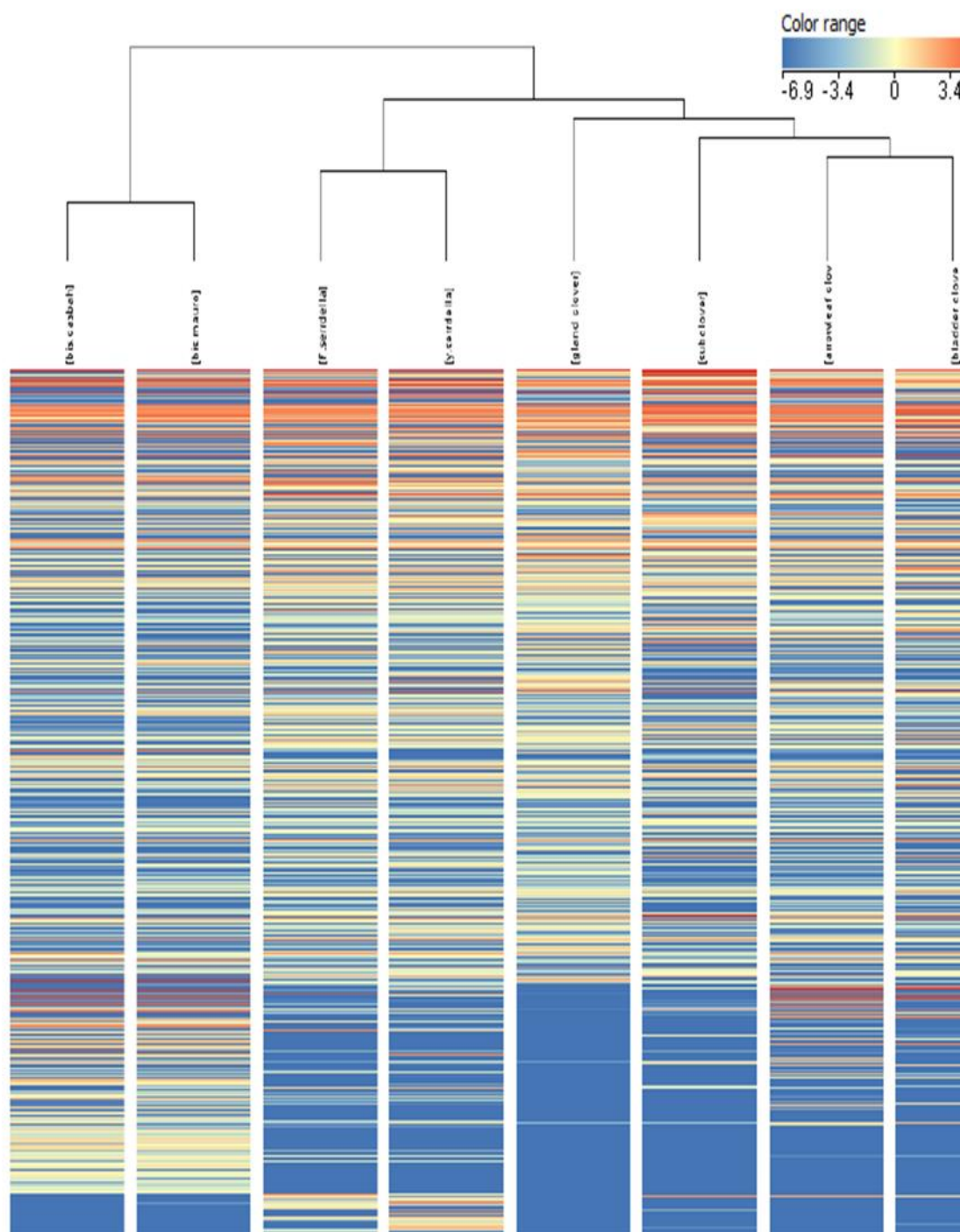**Figure S1.** Hierarchal clustering of molecular features in leaf tissue of annual pasture legumes acquired using UHPLC-QTOF-MS in positive and negative mode. Hierarchical clustering algorithm and Euclidean distance metric were used on normalized abundance using MPP (ver. 14.5 Agilent Santa Clara, CA, USA).
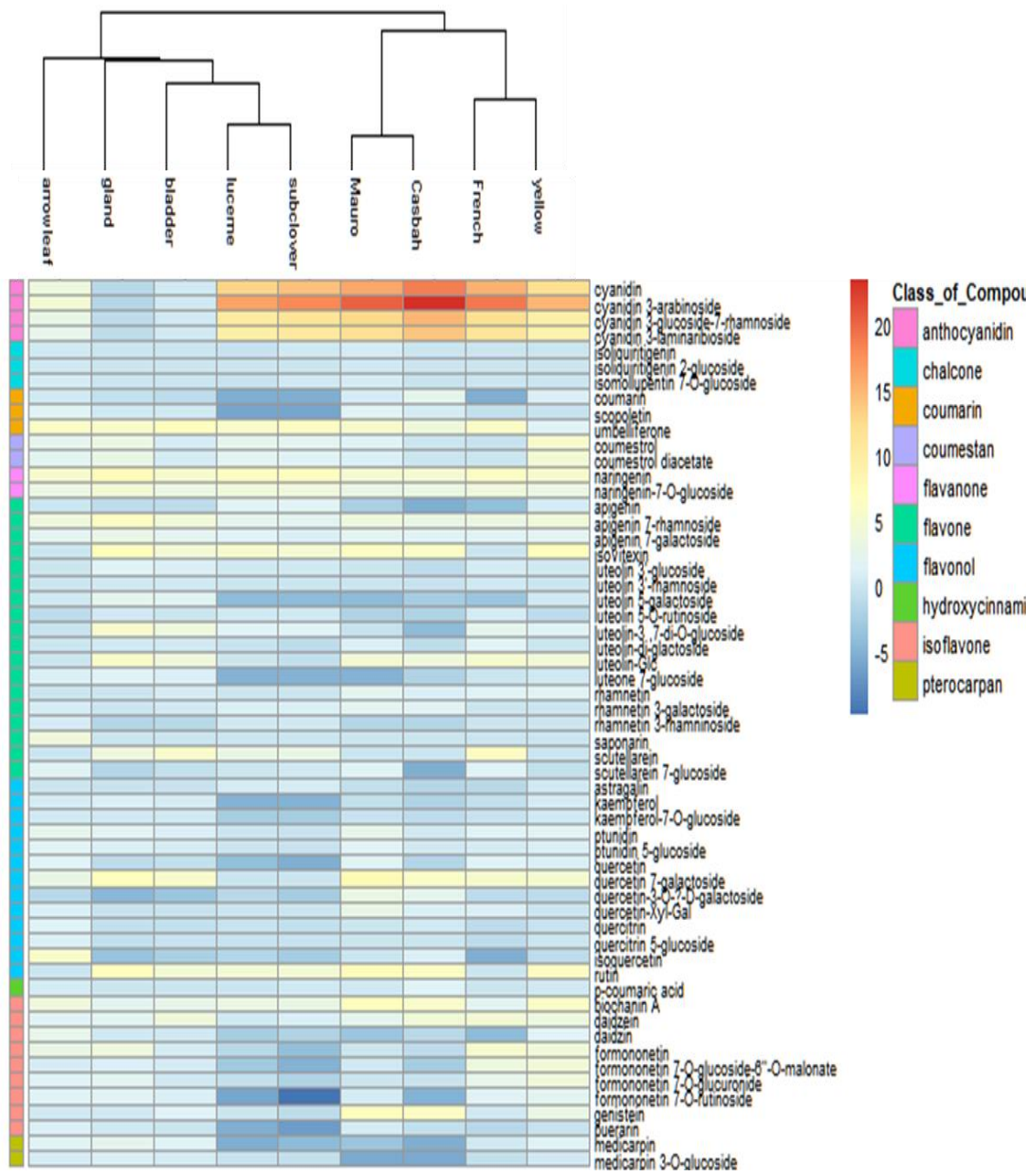
Figure S2. Hierarchal clustering of relative abundance of flavonoids, their glycosides and coumestrol in inflorescence tissue in pasture legumes collected in 2016. Hierarchical clustering algorithm and Euclidean distance metric were used on normalized abundance using R package.