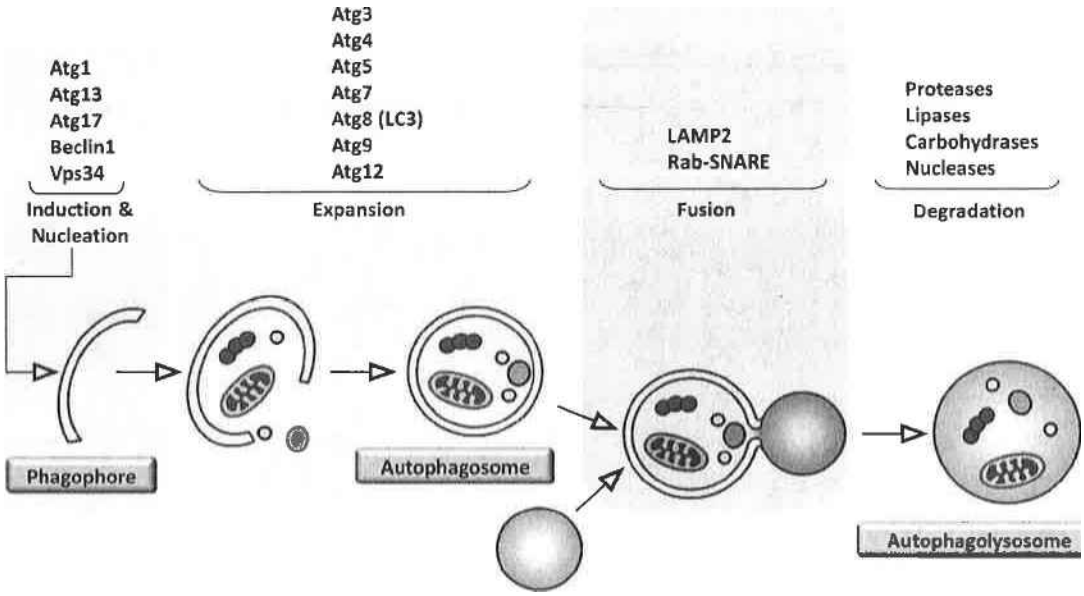
Figure 1


Atg1
Atg13
Atg17
Beclin1
Vps34
Induction &
Nucleation
Atg3
Atg4
Atg5
Atg7
Atg8 (LC3)
Atg9
Atg12
Expansion
LAMP2
Rab-SNARE
Fusion
Proteases
Lipases
Carbohydrases
Nucleases
Degradation
Phagophore
Autophagosome
Autophagolysosome

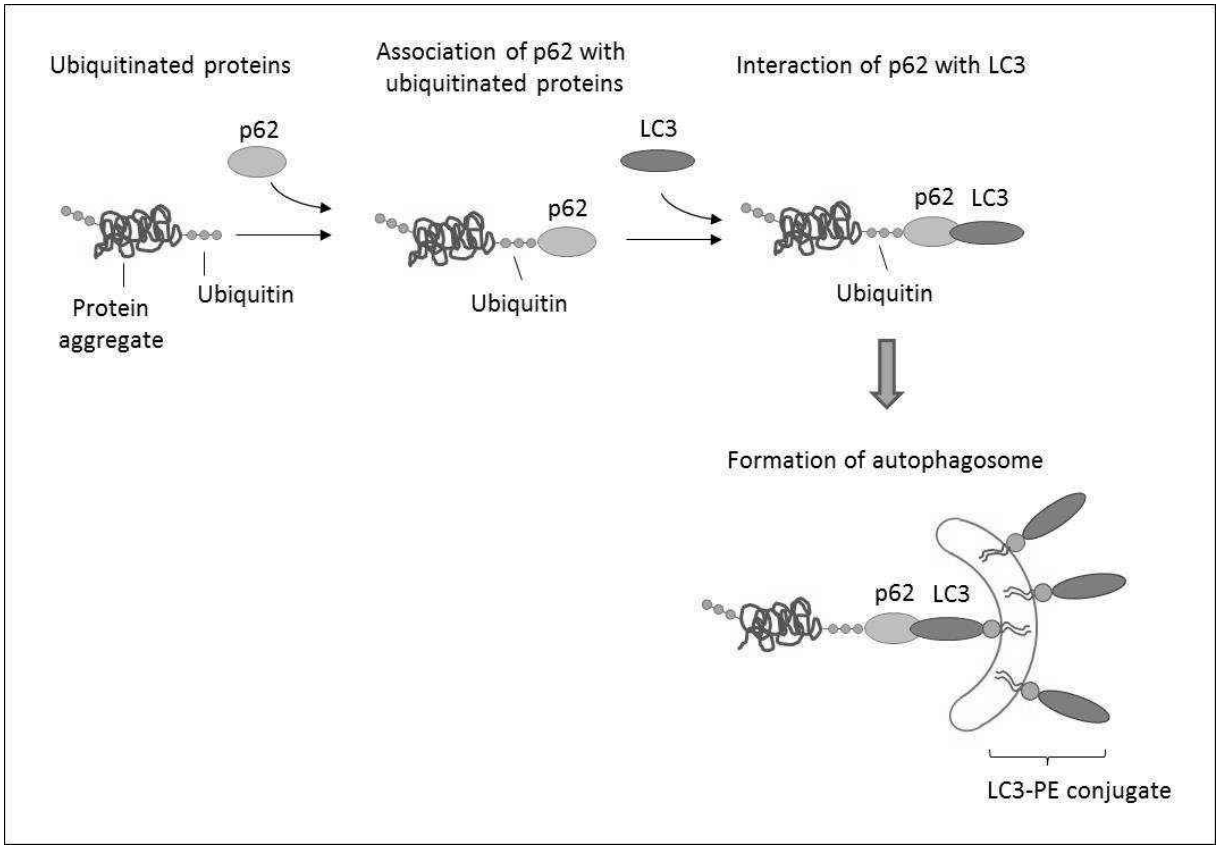
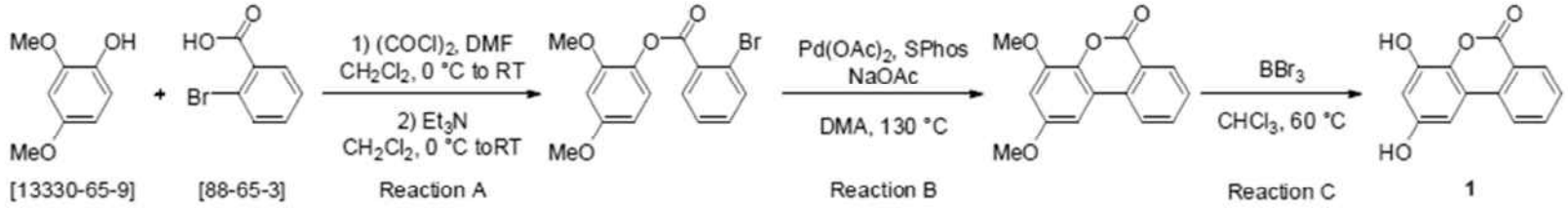

Ubiquitinated proteins
Association of p62 with
ubiquitinated proteins
Interaction of p62 with LC3
p62
LC3
p62
p62 LC3
Protein
aggregate
Ubiquitin
Ubiquitin
Ubiquitin
Formation of autophagosome
p62 LC3
LC3-PE conjugate

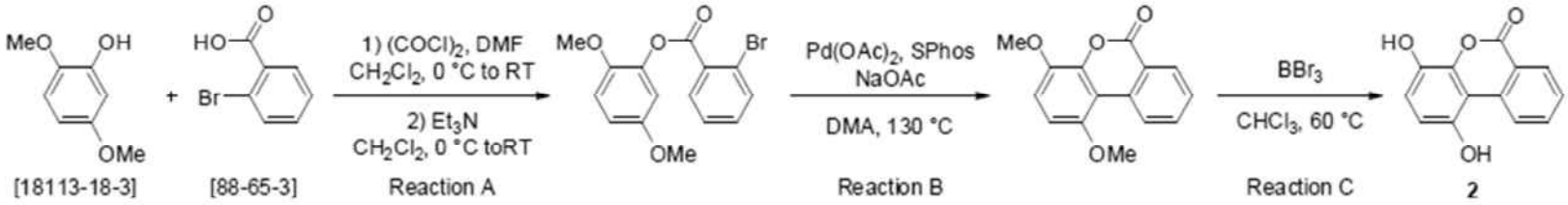
Figure 28

Compound 1



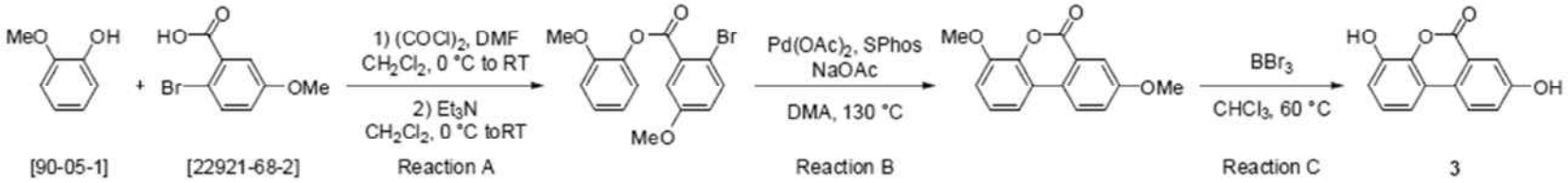
References: Reactions A, B and C

Compound 2



References: Reactions A, B and C

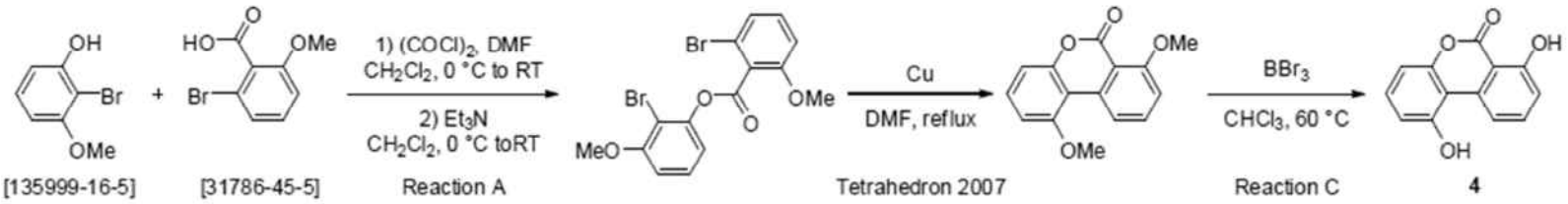
Compound 3



References: Reactions A, B and C

Figure 28 (cont.)

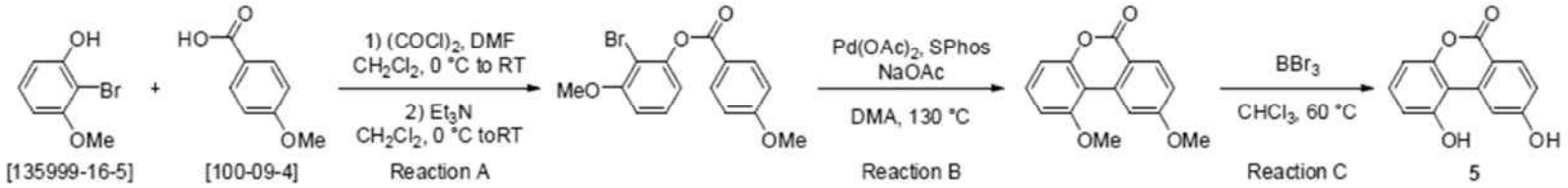
Compound 4



[135999-16-5] [31786-45-5] Reaction A Tetrahedron 2007 Reaction C **4**

References: Reactions A, C and *Tetrahedron* **2007**, *63*, 10454-10465

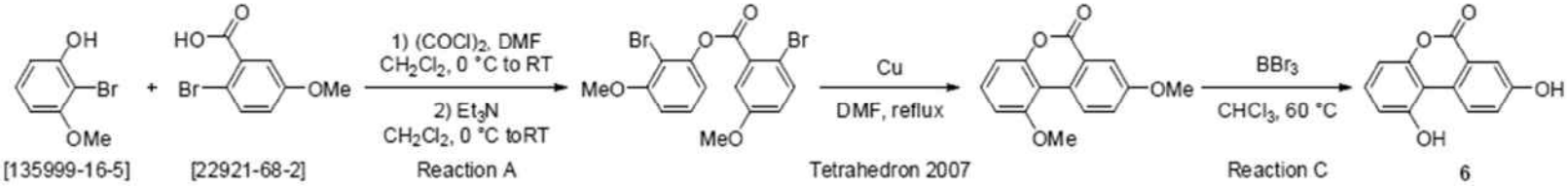
Compound 5



[135999-16-5] [100-09-4] Reaction A Reaction B Reaction C **5**

References: Reactions A, B and C

Compound 6

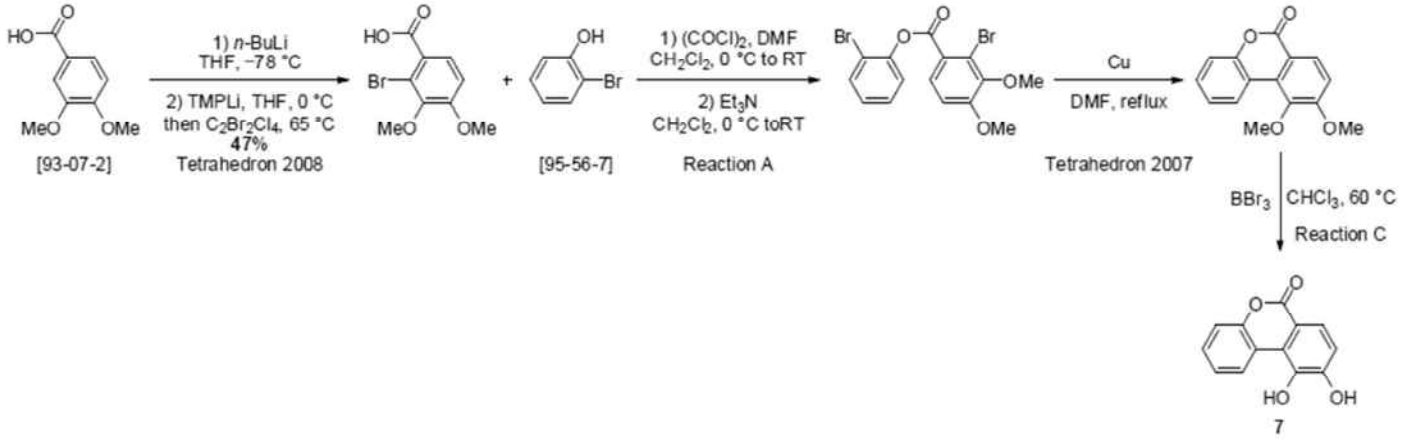


[135999-16-5] [22921-68-2] Reaction A Tetrahedron 2007 Reaction C **6**

References: Reactions A, C and *Tetrahedron* **2007**, *63*, 10454-10465

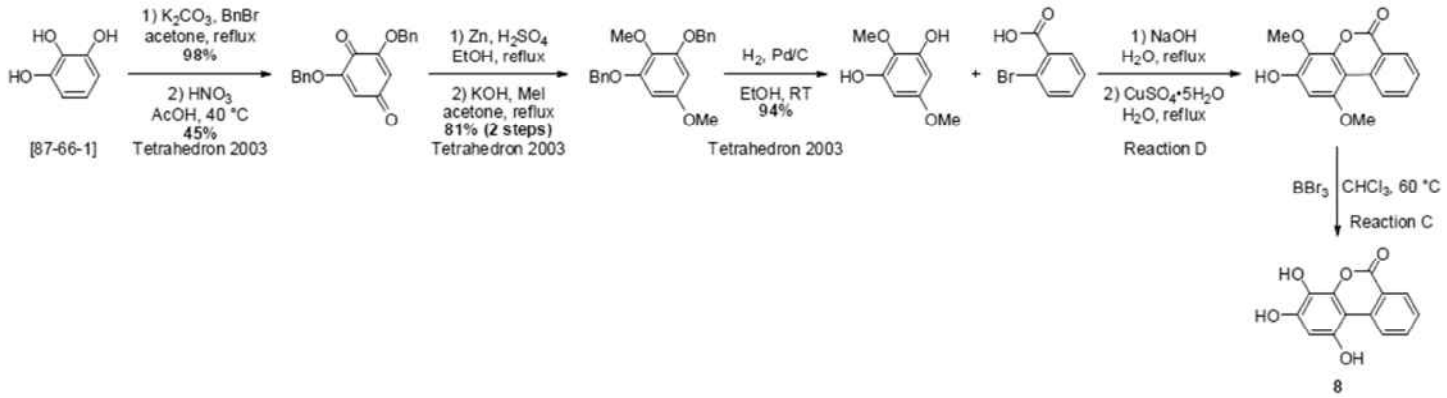
Figure 28 (cont.)

Compound 7



References: Reactions A, C, *Tetrahedron* **2007**, *63*, 10454-10465 and *Tetrahedron* **2008**, *64*, 10552-10557

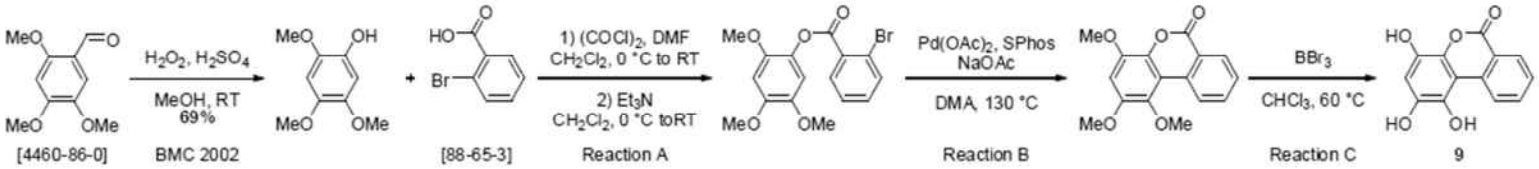
Compound 8



References: Reactions C, D and *Tetrahedron* **2003**, *59*, 6873-6887

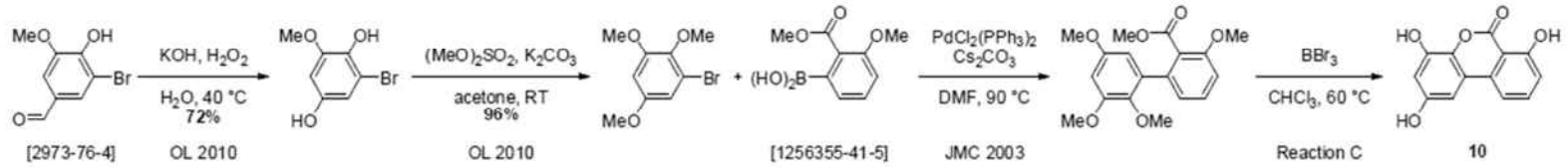
Figure 28 (cont.)

Compound 9



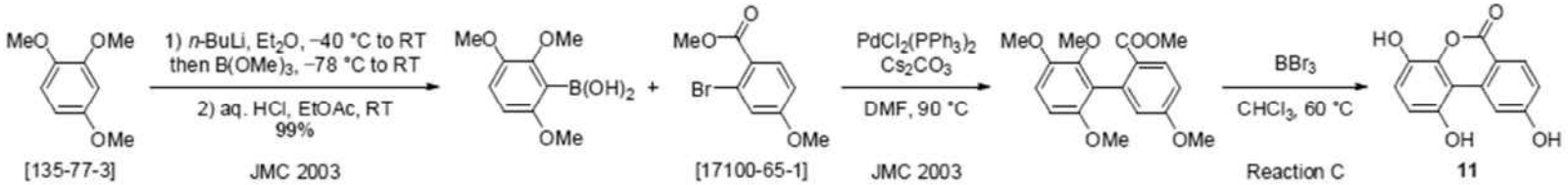
References: Reactions A, B, C and *Bioorg. Med. Chem.* **2002**, *10*, 685-690

Compound 10



References: Reaction C, *Org. Lett.* **2010**, *12*, 1428-1431 and *J. Med. Chem.* **2003**, *46*, 1016-1030

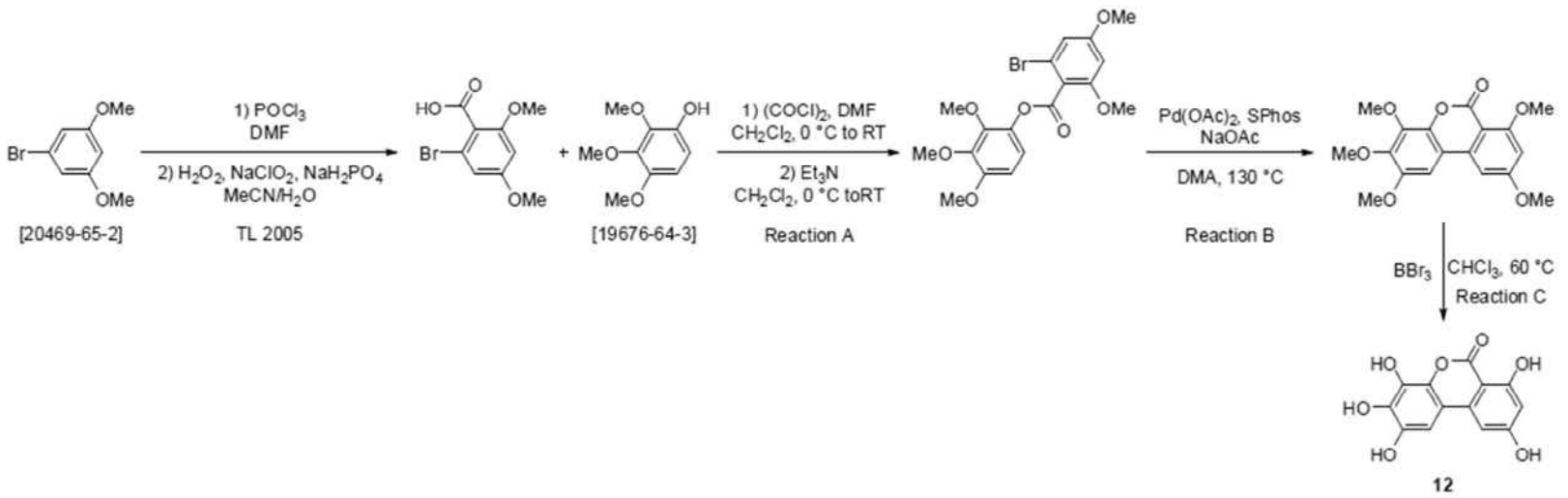
Compound 11



References: Reaction C and *J. Med. Chem.* **2003**, *46*, 1016-1030

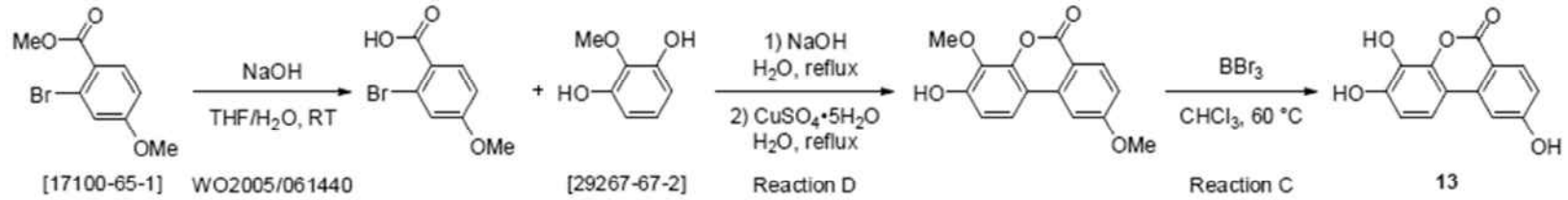
Figure 28 (cont.)

Compound 12



References: Reactions A, B, C and *Tetrahedron Lett.* **2005**, *46*, 3197-3200

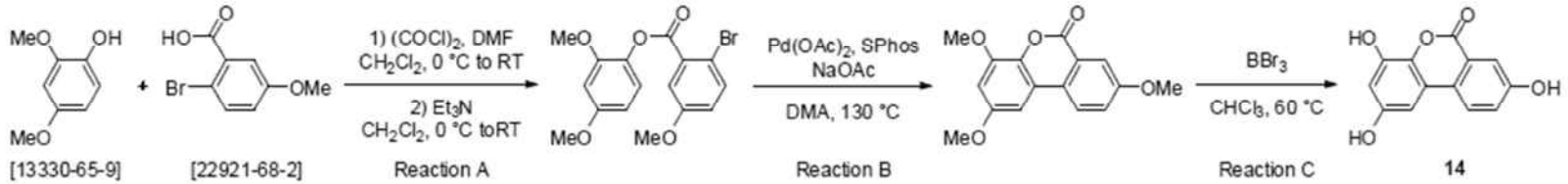
Compound 13



References: Reactions C, D and WO**2005**/061440 A1, p. 27

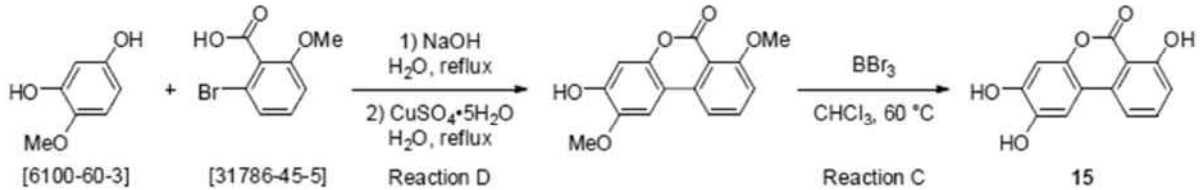
Figure 28 (cont.)

Compound 14



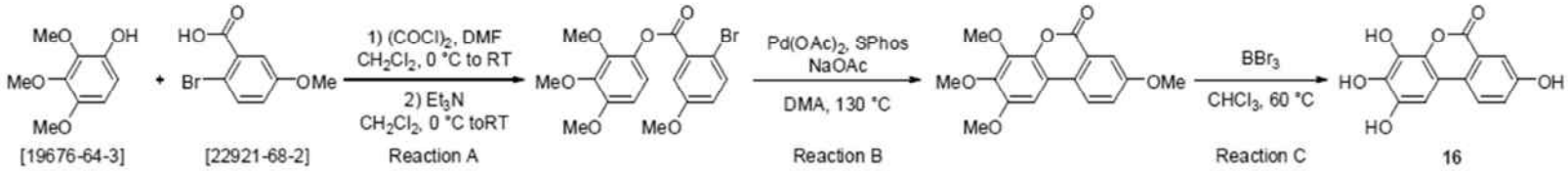
References: Reactions A, B and C

Compound 15



References: Reactions C and D

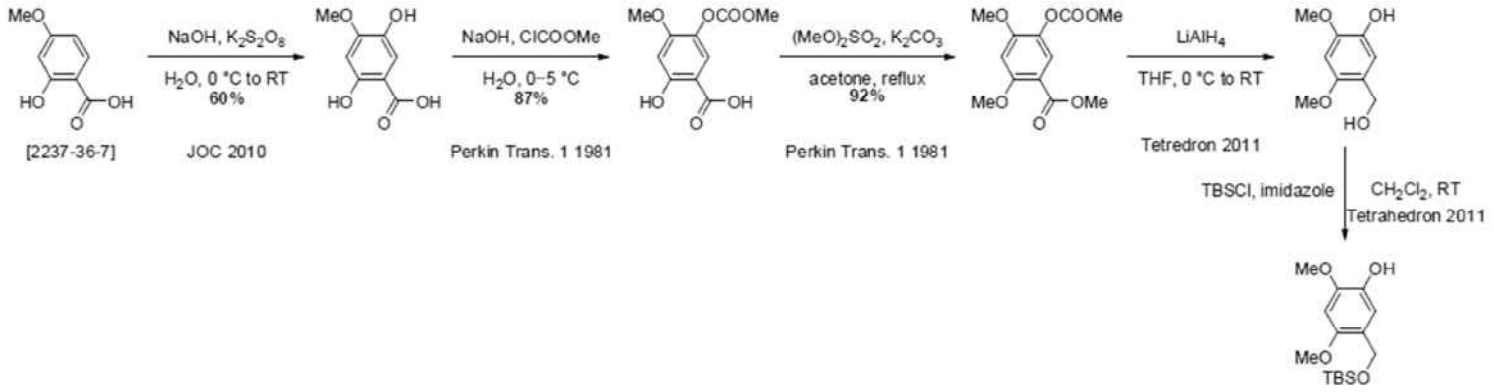
Compound 16



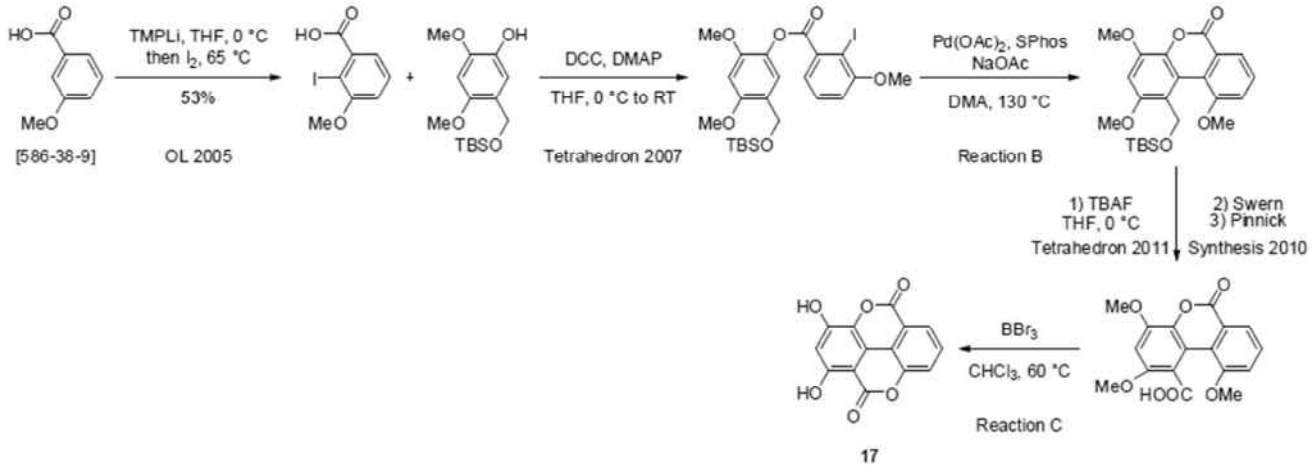
References: Reactions A, B and C

Figure 28 (cont.)

Compounds 17 & 18



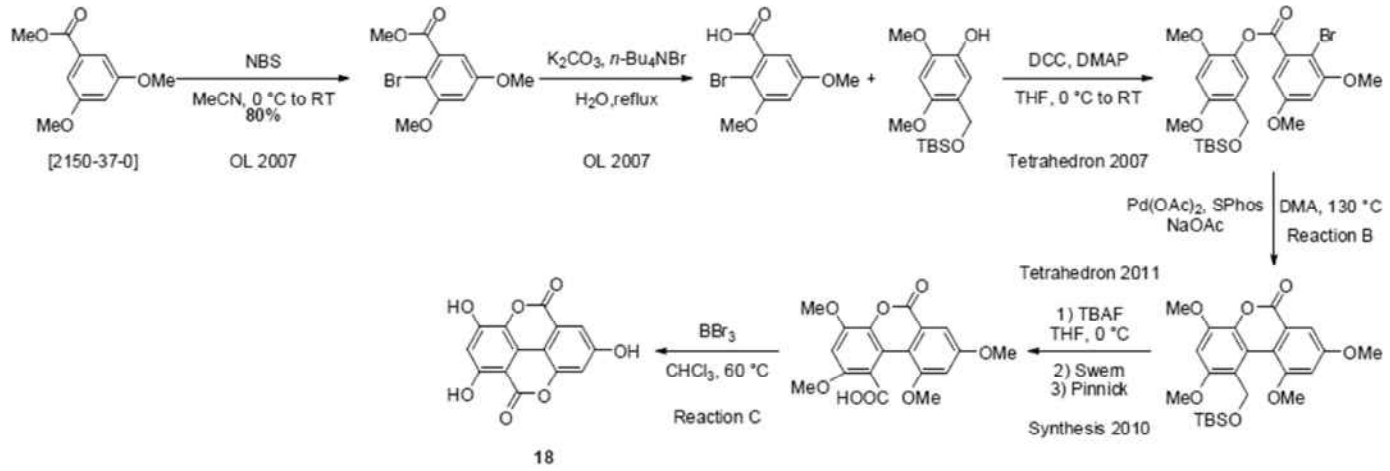
References: *J. Org. Chem.* **2010**, *75*, 5725–5728, *J. Chem. Soc., Perkin Trans. 1* **1981**, 3205-3213, *Tetrahedron* **2011**, *67*, 1960-1970 and *Tetrahedron* **2011**, *67*, 3904-3914



References: Reactions B, C, *Org. Lett.* **2005**, *7*, 2445-2448, *Tetrahedron* **2007**, *63*, 10454-10465, *Tetrahedron* **2011**, *67*, 3904-3914 and *Synthesis* **2010**, 3736-3740

Figure 28 (cont.)

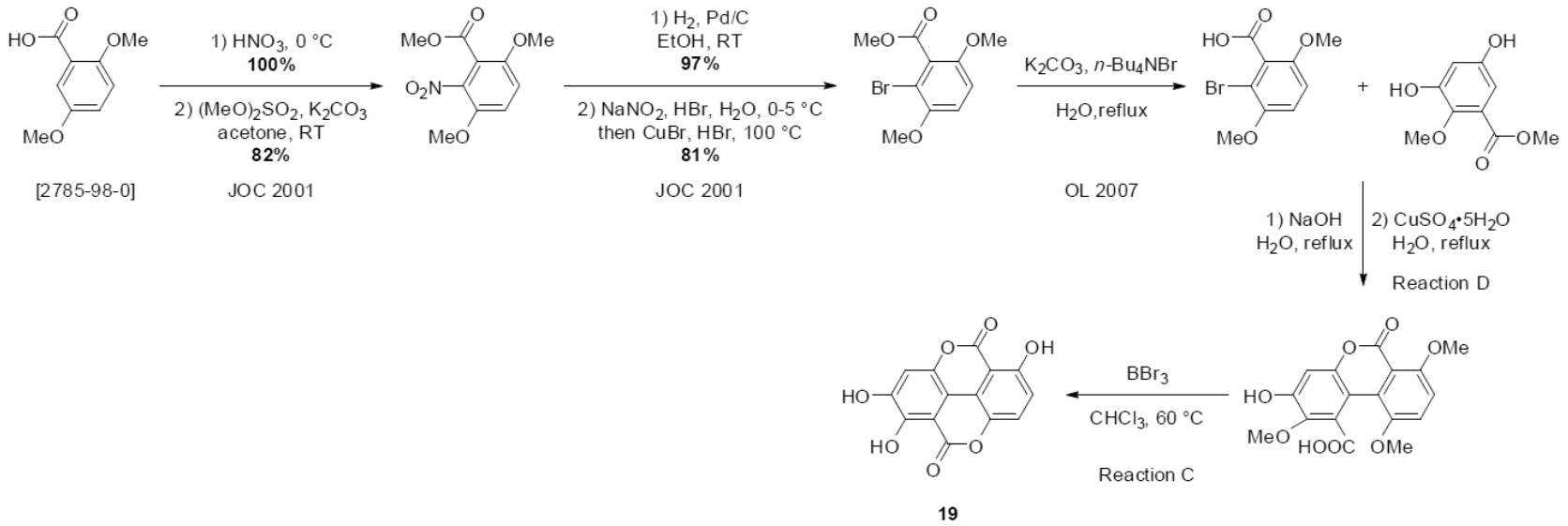
Compounds 17 & 18 (cont.)



References: Reaction B, C, *Org. Lett.* **2007**, *9*, 2831-2833 and *Tetrahedron* **2007**, *63*, 10454-10465, *Tetrahedron* **2011**, *67*, 3904-3914 and *Synthesis* **2010**, 3736-3740

Figure 28 (cont.)

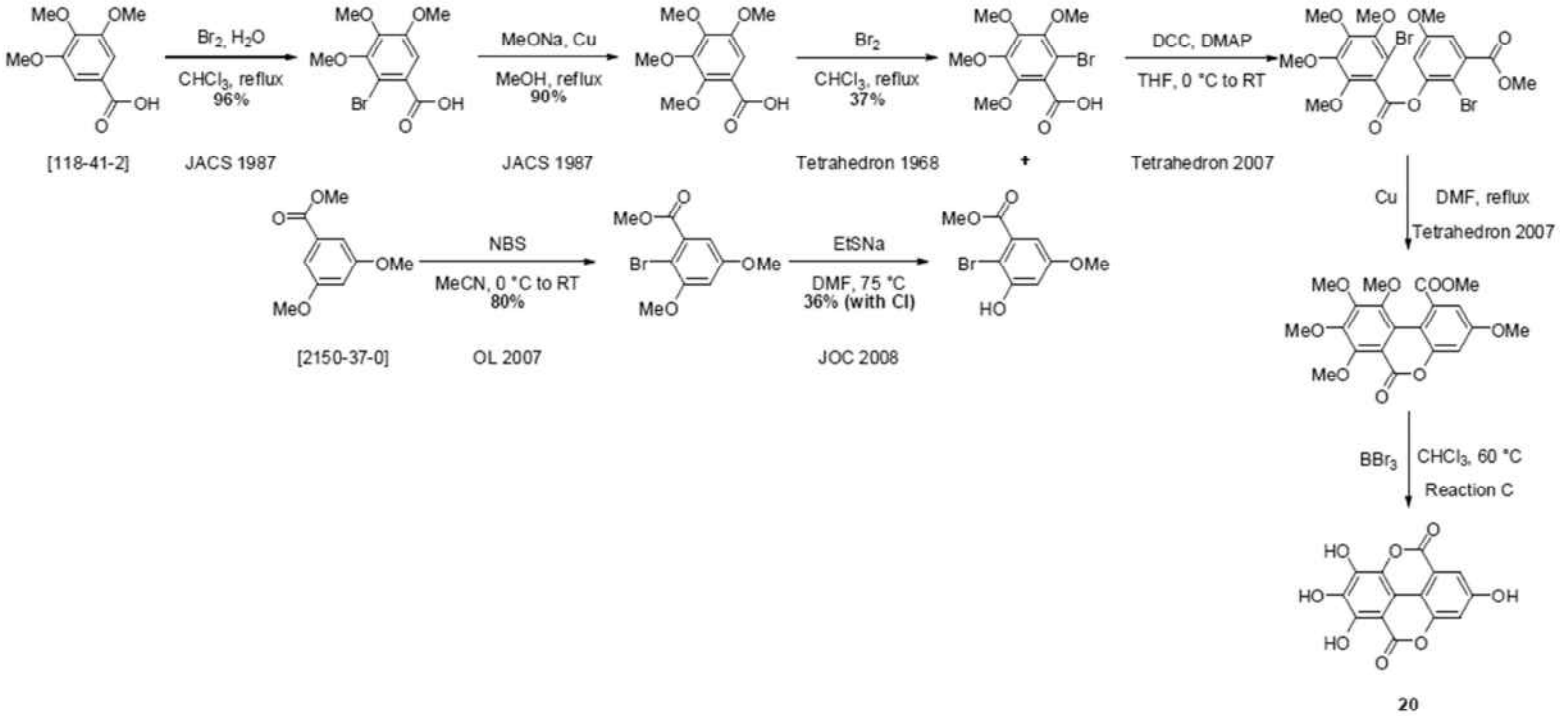
Compound 19



References: Reactions C, D, *J. Org. Chem.* **2001**, *66*, 954-961 and *Org. Lett.* **2007**, *9*, 2831-2833

Figure 28 (cont.)

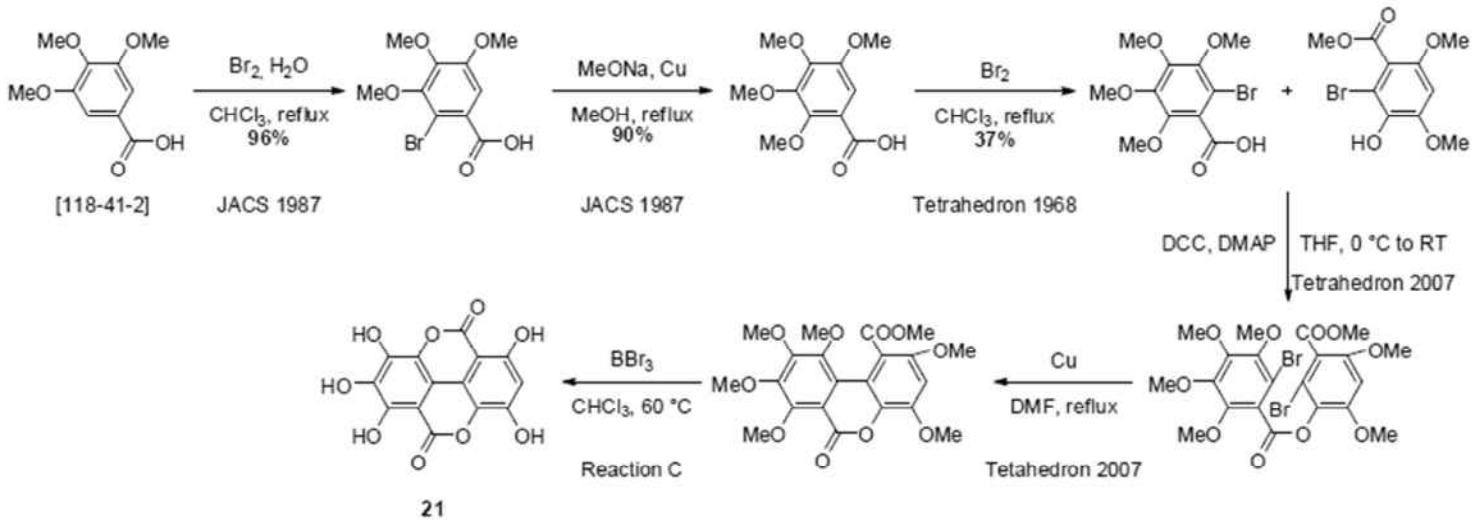
Compound 20



References: Reaction C, *J. Am. Chem. Soc.* **1987**, *109*, 5446-5452, *Tetrahedron* **1968**, *24*, 3407-3416, *Org. Lett.* **2007**, *9*, 2831-2833, *J. Org. Chem.* **2008**, *73*, 6849-6852 and *Tetrahedron* **2007**, *63*, 10454-10465

Figure 28 (cont.)

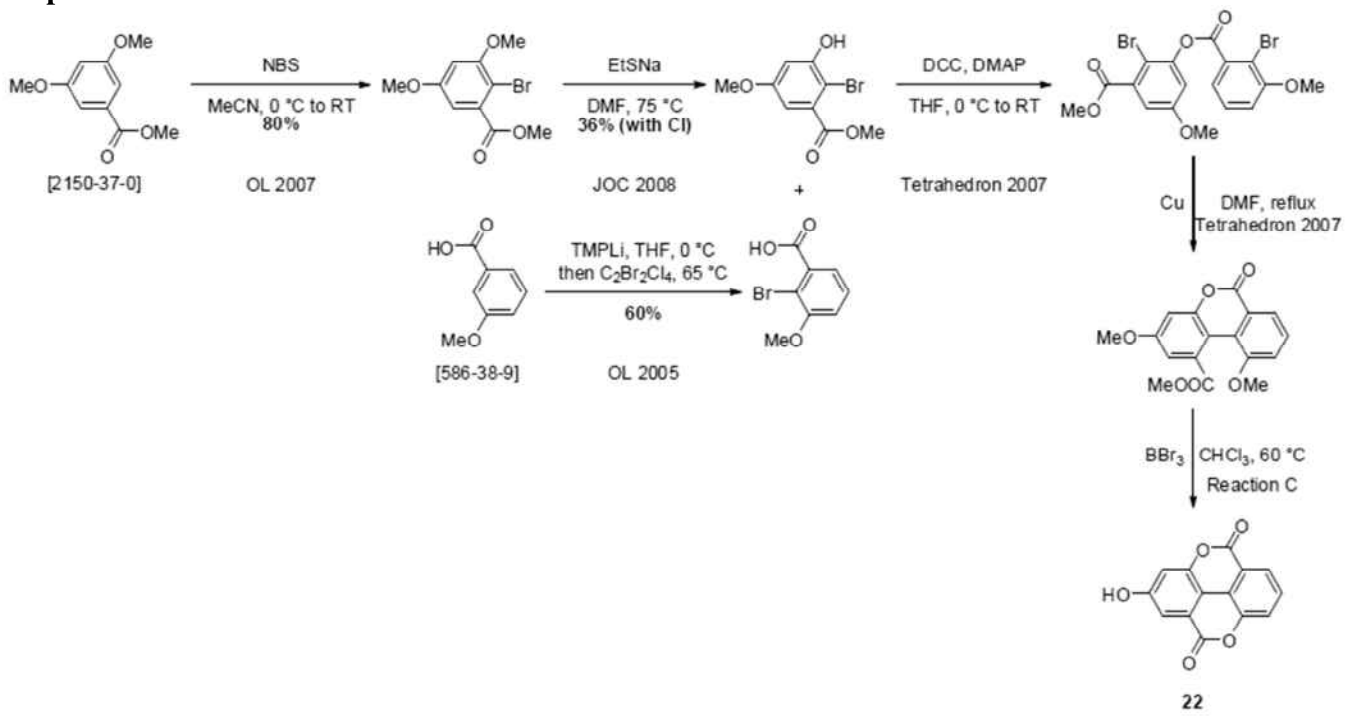
Compound 21



Reference: Reaction C, *J. Am. Chem. Soc.* **1987**, *109*, 5446-5452, *Tetrahedron* **1968**, *24*, 3407-3416 and *Tetrahedron* **2007**, *63*, 10454-10465

Figure 28 (cont.)

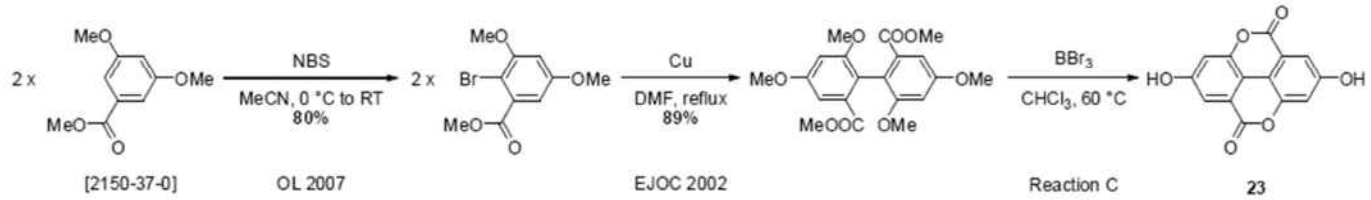
Compound 22



References: Reaction C, *Org. Lett.* **2007**, *9*, 2831-2833, *J. Org. Chem.* **2008**, *73*, 6849-6852, *Org. Lett.* **2005**, *7*, 2445-2448, and *Tetrahedron* **2007**, *63*, 10454-10465

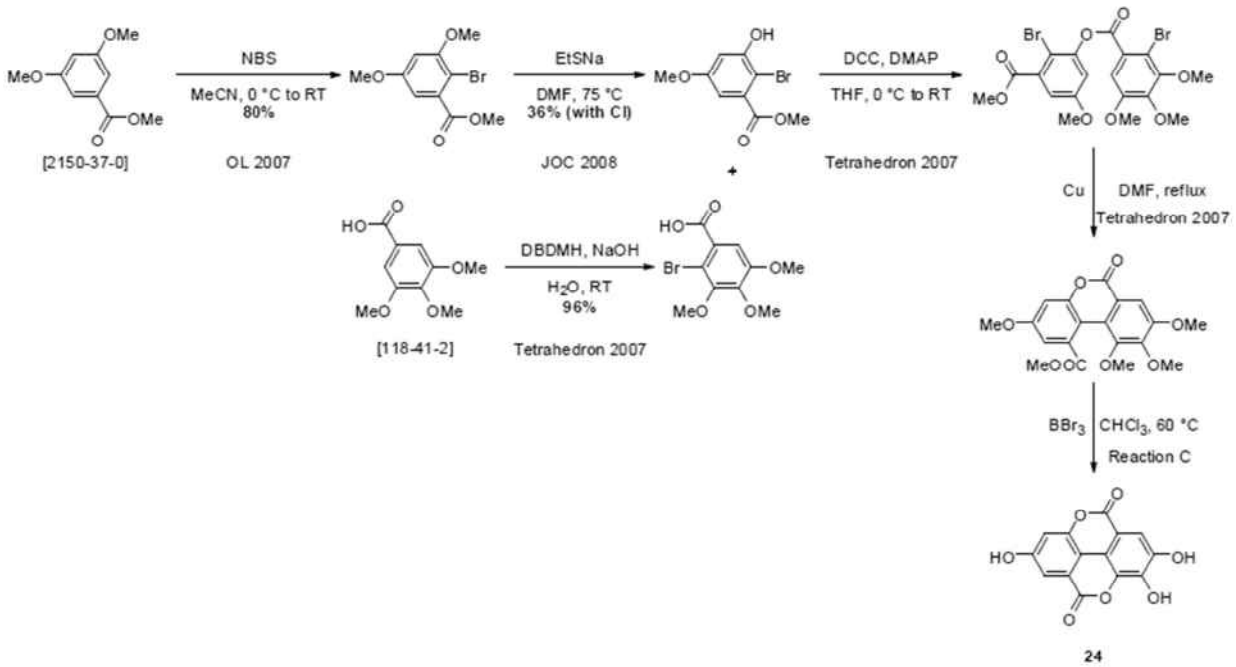
Figure 28 (cont.)

Compound 23



References: Reaction C, *Org. Lett.* **2007**, *9*, 2831-2833 and *Eur. J. Org. Chem.* **2002**, 1096-1106

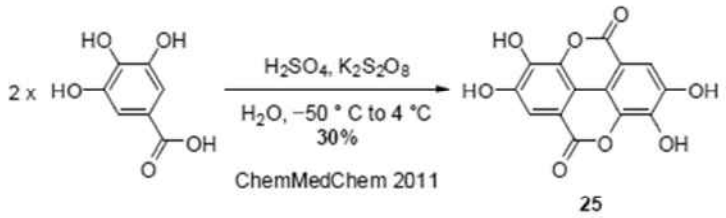
Compound 24



References: Reaction C, *Org. Lett.* **2007**, *9*, 2831-2833, *J. Org. Chem.* **2008**, *73*, 6849-6852 and *Tetrahedron* **2007**, *63*, 10454-10465

Figure 28 (cont.)

Compound 25



25

References: *ChemMedChem* **2011**, *6*, 2273-2286