

neobetanin 7; m/z 549

Figure 1. Chemical structures of betanin 1, its derivatives (2-4, 6-8) and betanidin 5 present in the BRE extract subjected to studies on chlorination.

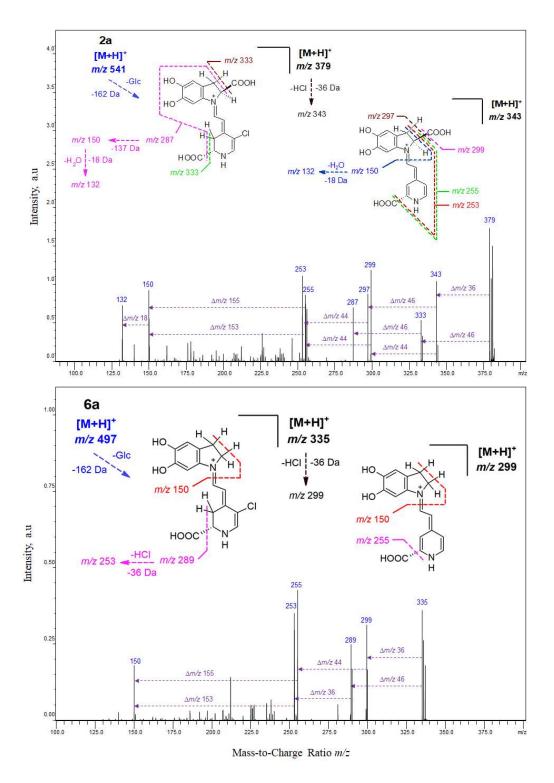


Figure 2. The HRMS fragmentation spectra obtained by IT-TOF for chlorinated decarboxylated derivatives 18-chloro-17-decarboxy-betanin **2a** and 18-chloro-2,17-bidecarboxy-betanin **6a** as well as the fragmentation pathways for their deglucosylated protonated ions.

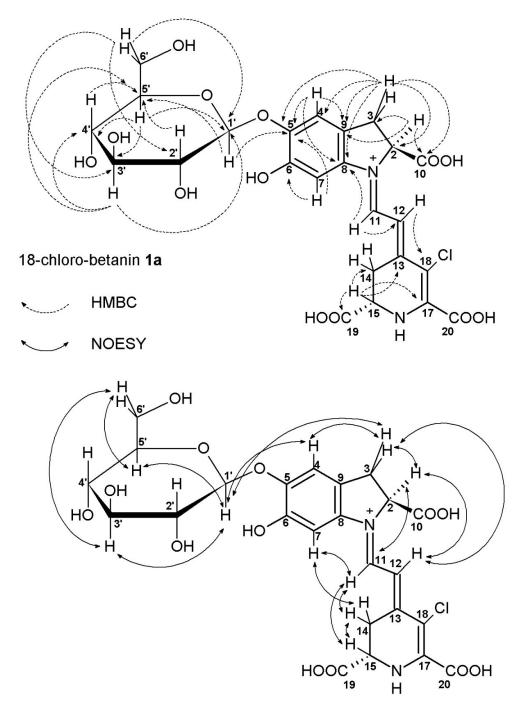


Figure 3. Important HMBC and NOESY NMR correlations in the structurally elucidated 18-chlorobetanin 1a.