

**Tentative Outline**  
**Special Issue for Current Organic Chemistry**  
*Guest Editor(s): María Roca*

**TITLE: Mass Spectrometry Of Chlorophylls Derivatives**

**Aims & Scope:**

Due to their essential roles in photosynthesis, chlorophylls are omnipresent from photosynthetic prokaryotes to higher plants, being considered the most important pigments on Earth. Such vital function derives from its structure, chlorophylls can absorb light quanta effectively, but also they can release and take up electrons reversibly. Chlorophylls are cyclic tetrapyrroles carrying a characteristic isocyclic five-membered ring that are functional in light-harvesting or in charge separation in photosynthesis. The general term 'chlorophylls' includes several kinds of chlorophyll structures depending of the unsaturation degrees of the macrocycle. Fully unsaturated porphyrin macrocycle is present in *c*-type chlorophylls of chromophyte algae and some prokaryotes. The chlorin system shows a saturated bond between C17-18 and it is present for example in the chlorophylls *a* and *b* of oxygenic organism and in some bacteria. Finally, the bacteriochlorin type exhibits two saturated bonds at C7-8 and C17-18, and it has been described in bacteriochlorophylls of anoxygenic bacteria. During the last year, mass spectrometry has been used successfully to obtain information of the structural configuration of the different chlorophylls, not only related with identification and characterization but also providing insights of the mechanism of reaction. The present theme issue will review the recent developments in the field of mass spectrometry covering different chlorophyll structures.

**Subtopics:**

- Mass spectrometry of chlorophylls from photosynthetic prokaryotes
- Mass spectrometry of (algal) chlorophyll *c* compounds
- Structural investigations of chlorophylls *a* and *b* and their Willstätter allomerization products using mass spectrometry
- Mass spectrometry of non-allomerized chlorophylls *a* and *b* derivatives from plants

**Approximate Schedule:**

- Manuscript Submission Deadline: February 15<sup>th</sup> 2017
- Peer Review Due: February 28<sup>th</sup> 2017
- Revision Due: March 31<sup>st</sup> 2017
- Notification of Acceptance by the Guest Editor: April 15<sup>th</sup> 2017
- Final Manuscript Due: April 30<sup>th</sup> 2017