

## Editorial

Dear authors and readers, the Editor of Eclética Química Journal, Editorial Board and Staff feel happy presenting this issue which contains valuable results of important investigations developed in a complicated scenery due to Covid-19, but that keep alive the flame of hope for better times. It is well known that antibiotic resistance and the growth of new strains of bacteria are of great concern to the human health. It requires the development of new drugs with better efficiency to treat the infections caused by these human pathogens. Particularly, the commonly used medicinal plants of Brazilian communities may help to diminish this problem, which is the subject of the first article. The *Moringa oleifera* seed extract showed antibacterial activity against both Gram-positive and Gram-negative bacteria and isolated compounds like kaempferol and quercetin were effective against infections caused by bacteria with the order of potency *Pseudomonas aeruginosa* > *Klebsiella pneumonia* > *Staphylococcus aureus* > *Escherichia coli* > *Streptococcus pneumonia*. Sequentially, a compound from succinic acid and Ag<sup>+</sup> ion was obtained and characterized as bidentate coordinated Ag<sub>2</sub>C<sub>4</sub>H<sub>4</sub>O<sub>4</sub> complex. Density functional theoretical studies confirmed the coordination of each carboxylate group to one silver atom by the two oxygen and the bond lengths O...Ag theoretically determined range from 2.325 to 2.338 Å. This complex showed *in vitro* antibacterial activity against the bacterial strains of *Staphylococcus aureus*, *Bacillus cereus*, *Escherichia coli* and *Pseudomonas aeruginosa* complex and to be active over *M. tuberculosis* H<sub>37</sub>Rv strain. Following, microparticles (MP) containing nitrogen (N), phosphorus (P) and potassium (K) were synthesized with a mixture of polymers and a linear, precise and accurate methodology was developed to determine the NPK content. The MP can be applied as controlled release alternative to traditional fertilizers. Next, an emerging pollutant with endocrine disrupting properties, bisphenol A (BPA), present at trace levels in various aqueous medium, was removed by an advanced oxidation process, specifically heterogeneous photocatalysis using TiO<sub>2</sub>. The methodology was efficient to completely remove the BPA even using solar radiation as UV source. Ecotoxicological and chronic toxicity evaluations indicated that the post-treatment aqueous samples showed better performance compared to the initial ones. Closes this issue a study that consists in developing a methodology for determining α-linolenic acid (ALA, ω-3) and linoleic acid (LA, ω-6) in vegetable oils with ultrasound-assisted extraction, which was validated by high-performance liquid chromatography (HPLC) for the quantification of polyunsaturated fatty acids. The proposed method is simple, fast, linear, precise and accurate for the quantitative determination of ALA and LA in vegetable oil.

Lastly, the Editor and members of Editorial Board of Eclética Química Journal pay a tribute to the effort developed by Authors and Reviewers during this confusing time by helping us to go ahead with mutual and essential collaboration.

Assis Vicente Benedetti  
Editor-in-Chief of EQJ