Activated carbon can be produced from any carbonaceous material rich in elemental carbon, and a large variety of waste biomass have been used in the literature with this aim, e.g., [1-3]. The characteristics of the raw material may markedly affect the porous structure and adsorption properties of the carbons obtained. 

Microalgae have a higher photosynthetic efficiency, larger biomass, faster growth than other biomass and require lower amount of nutrients. Their particle size converted them in a potential precursor of mesoporous activated carbon.

In the present work, the char obtained in the pyrolysis of the microalgae Nannochloropsis sp. has been subjected to a physical activation to study the characteristics of the activated carbon generated.

- The physical CO₂ activation of solid residue obtained by pyrolysis of microalgae leads to a significant increase of the surface area.
- The burn-off value in the range 40-60 % maximizes the surface area obtained. In spite of the significant increase of this value after activation, it is still much lower than that presented by typical commercial carbons. This fact indicates that this type of carbon present limited industrial applications.
- The activation of the solid residue obtained from pyrolysis of microalgae leads to a high percentage of mesopores, reaching values around 60 %. This percentage is much higher than those observed in typical commercial microporous carbons. Despite of the low BET surface area reached in this activated carbon, the methylene blue adsorption is higher than that obtained in other microporous activated carbon with high BET surface area.

Conclusions:

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