Going beyond the surface: a glance inside smart conducting molecular surfaces through a multitechnique approach

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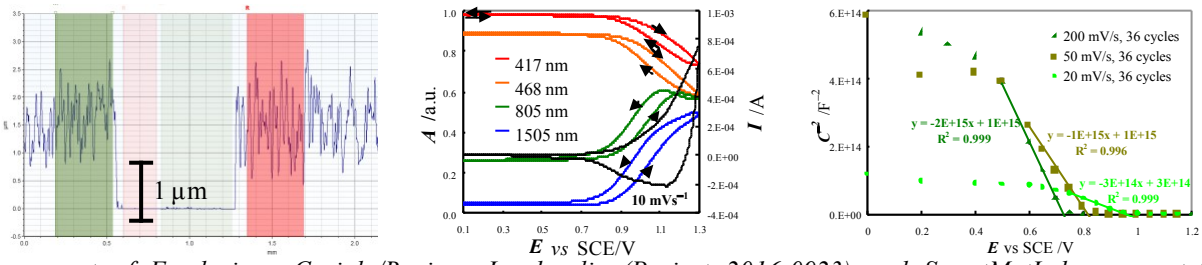
Conducting organic polymers, COPs, are smart materials that merge some of the most interesting properties of common polymers (*e.g.* flexibility, processability, etc.) with high electrical conductivity of metals. Research in this field is currently attracting increasing attention, since these innovative materials are very promising for a great variety of applications, from energetics to electronics and sensoristics, even from an industrial point of view.

Chirality makes COPs even smarter materials, opening the way to enantioselective electroanalysis/electrosynthesis. In particular the "inherent chirality" concept proposed by our groups some years ago actually represented a breakthrough, significantly improving all other literature approaches so far proposed, making possible deposition of conducting homochiral oligomeric films acting as effective, efficient and robust enantioselectors toward a great variety of chiral analytes, in different media [1-3].

The further natural step is the comprehension of the actual working mechanism of these intelligent surfaces. To reach such intriguing target a deep and multivariate characterization is mandatory, to reveal as much properties as possible that could be finally combined to depict a complete portrait of these conducting inherently chiral films. In this short presentation we will glance at these smart chiral conducting molecular surfaces, following an ideal tour from outside (*i.e.* surface appearance) to their inner parts (*i.e.* optical and electronic features).



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References

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