Ligand activity was measured. Differences in responses to light and/or electrochemical stimuli; this capability is important in the field of bionics, wherein remote control of the properties of materials opens new possibilities. For example, the ability to actuate a new material capable of multi-mode switching (electrochemical and photochemical) between various isomers.

**ON DEMAND TUNABLE PROPERTIES OF THE MOLECULAR SWITCHES**

The dramatic differences in colour are due to the different substitution arrangement for BSP and BSP6 in particular the replacement of the NO2 group at position 6 (BSP2) on the spiropyran with a terthiophene derivative (BS6).

**PHOTOCHROMISM in SOLUTION**

![Absorbance vs. Wavelength for BSP2](image)

**PHOTODYNAMIC HALOCHROMISM**

To a 10 mM solution of BSP6 in ACN were added 100 μl of 0.1M solution of HCl. The spectra of formation of MCH6 were obtained at 20°C over 2800 sec.

**SEM SURFACE STUDY**

![SEM images of BSP2 and BSP6](image)

**REFERENCES**


**CONCLUSIONS**

The target of this work was the analysis of the surface interactions between two different adaptive materials and an important biological agent like fibronectin. The technique used to probe the intensity and the nature of these interactions was AFM Atomic Force Microscopy tips functionalized with FN appear to show the presence of adhesion forces between FN and the hybrid conducting polymer in exam. The results were reproducible and showed higher interactions with the BSP2 smaller than the MCH2. The molecules demonstrated a specific activity when stimulated by a variation of the surrounding chemical environment and these features were reversible and reproducible over time.