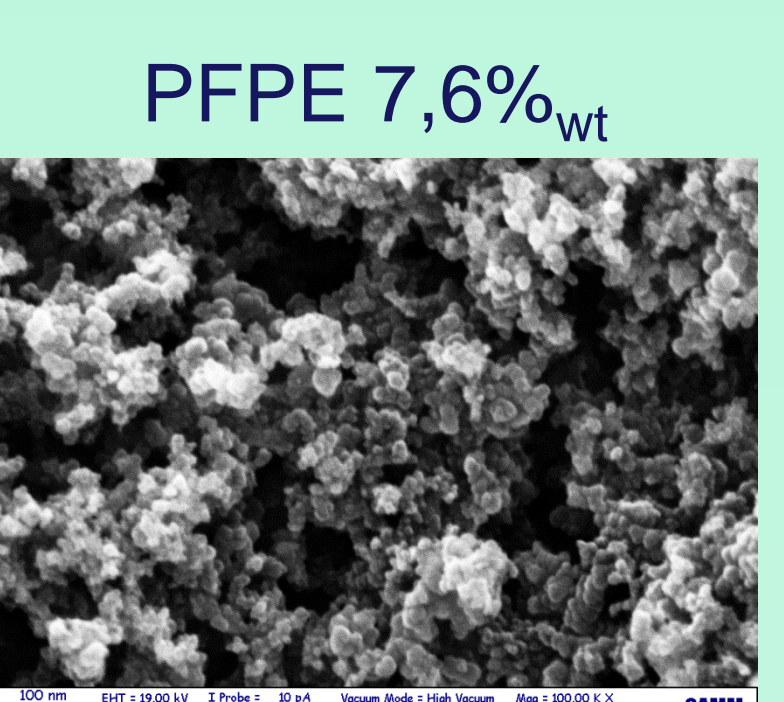
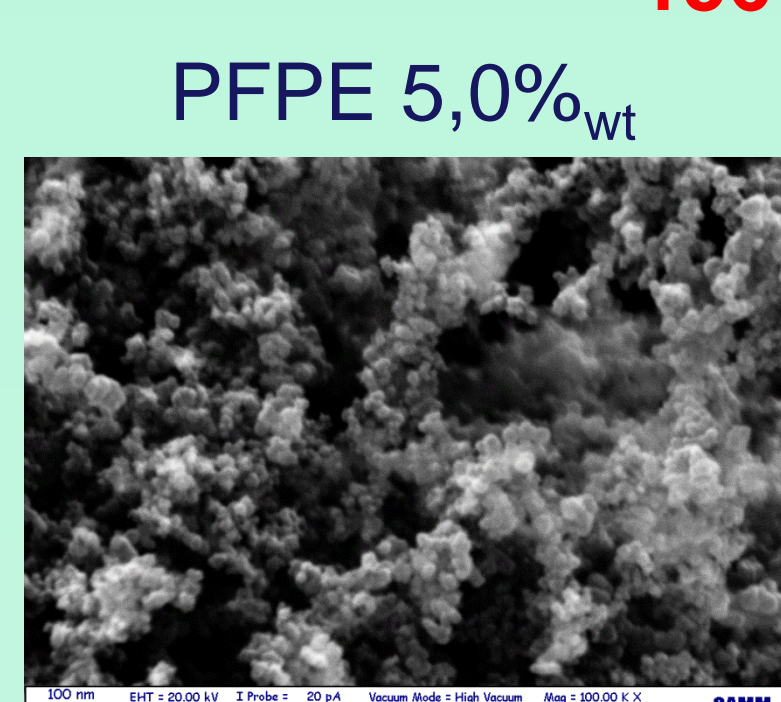
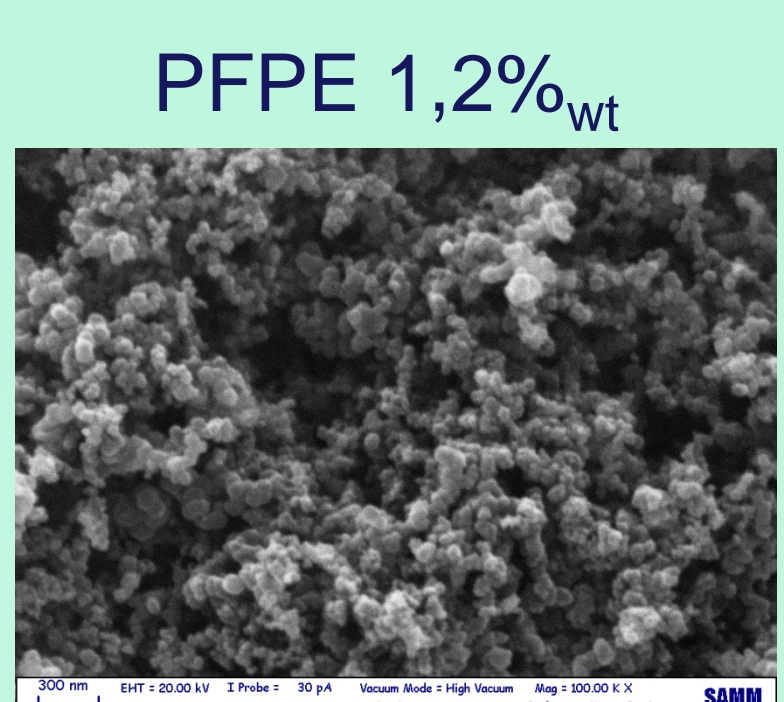
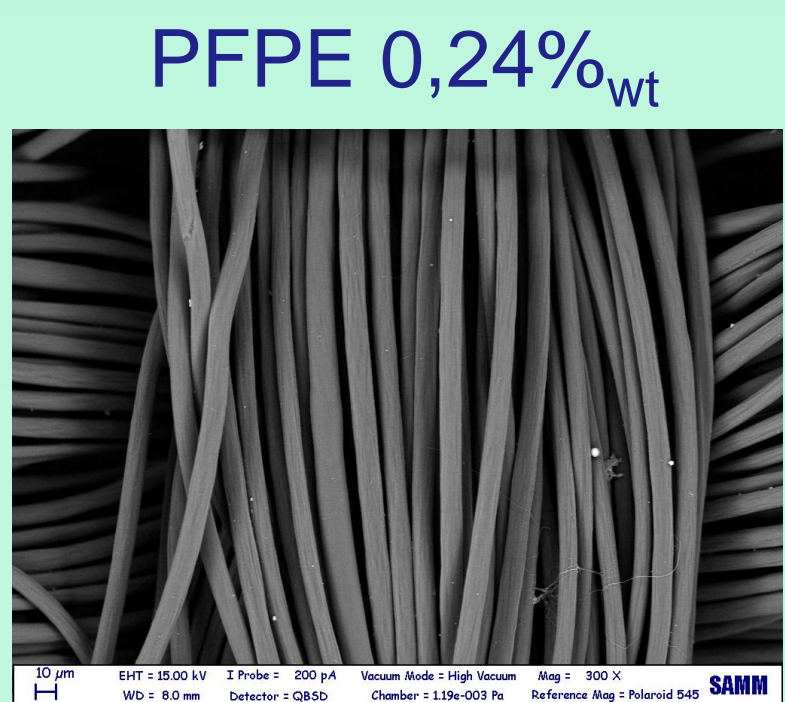
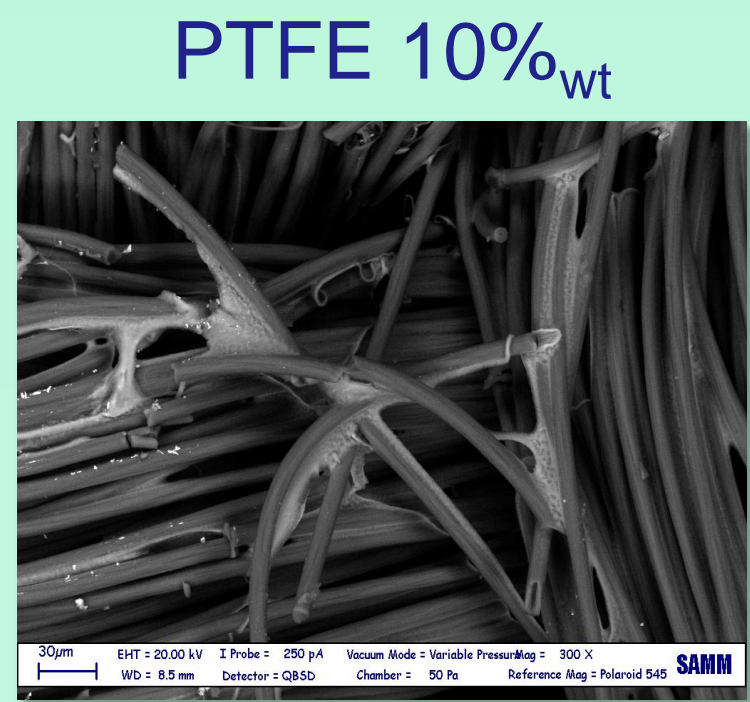
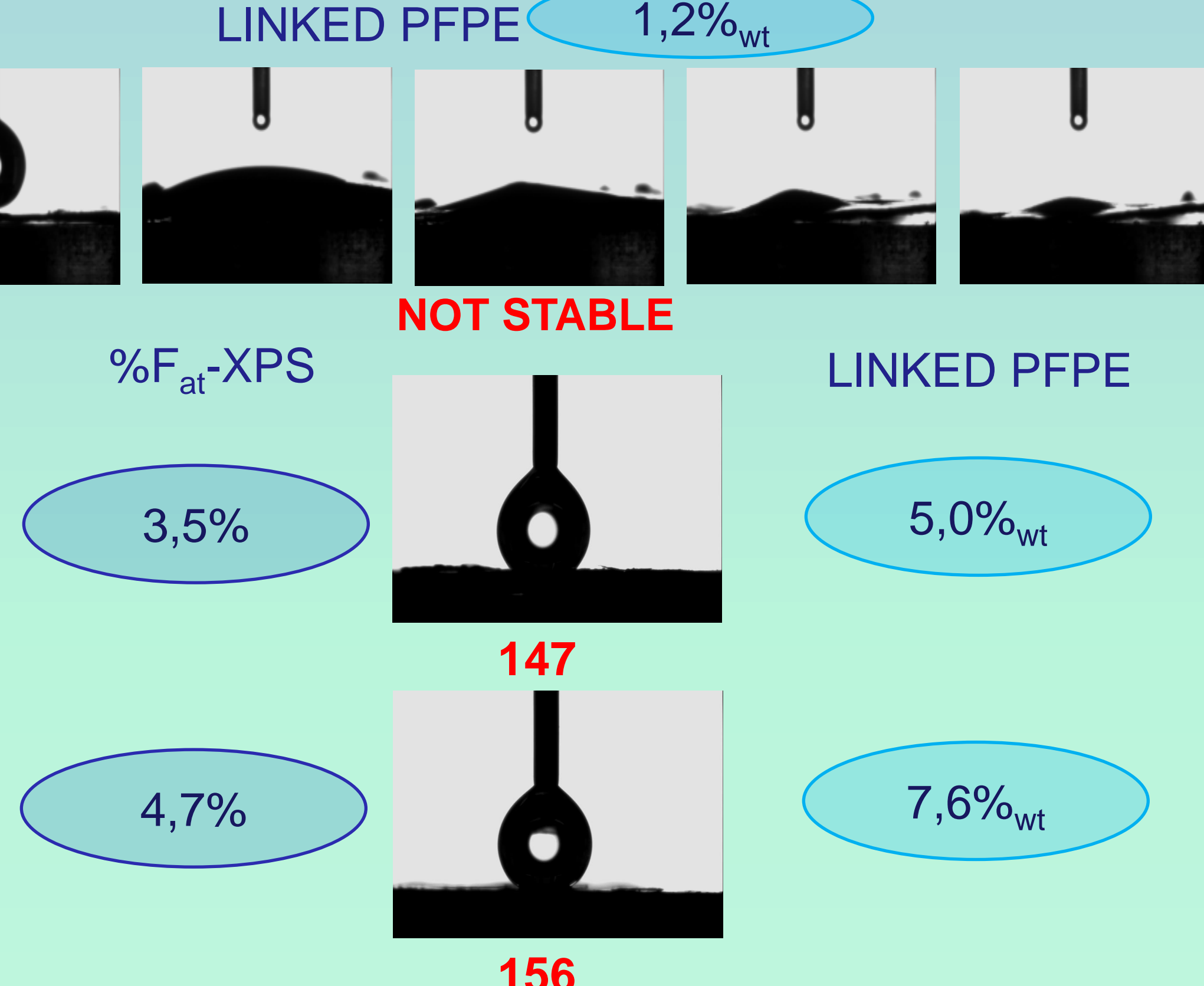
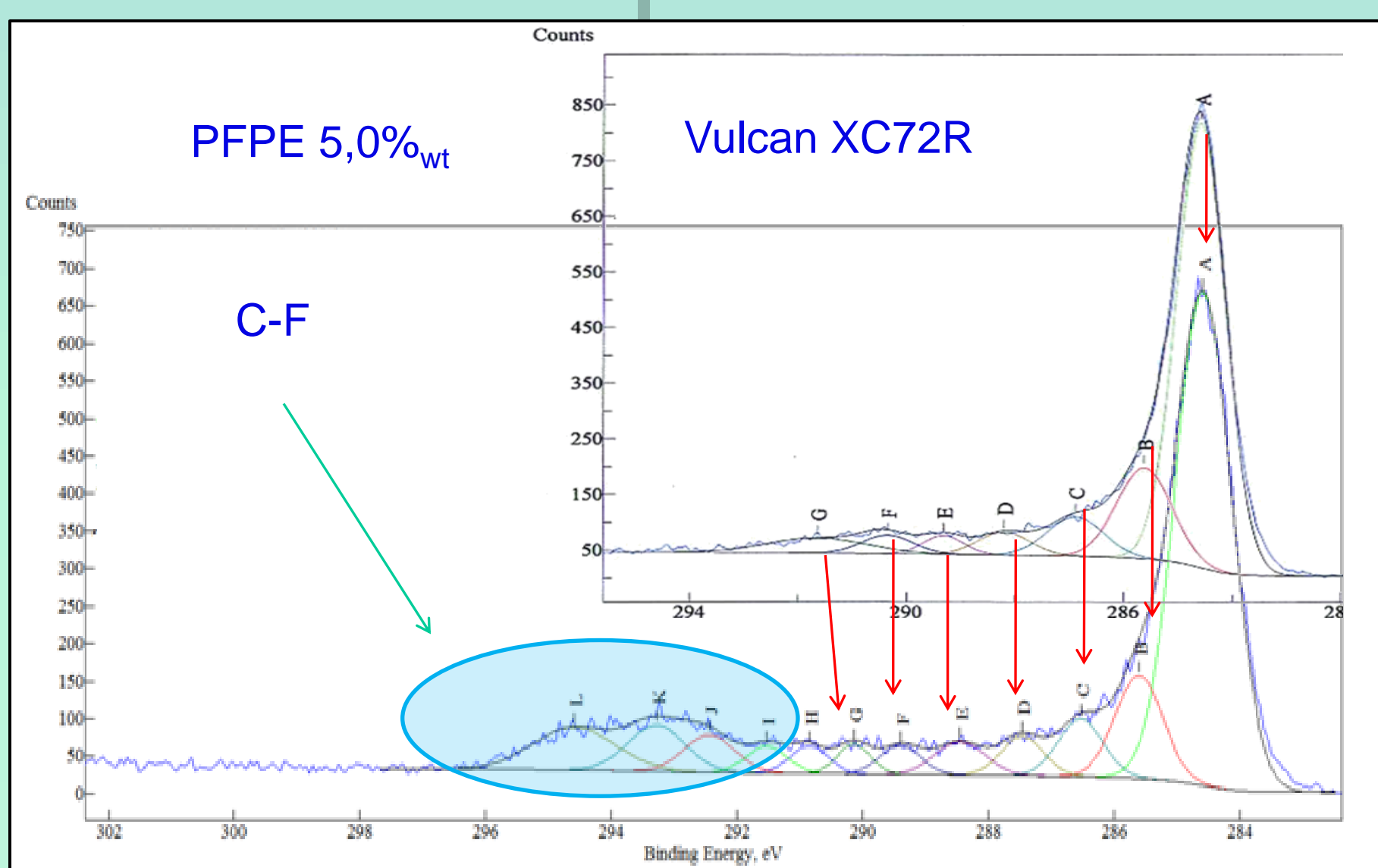
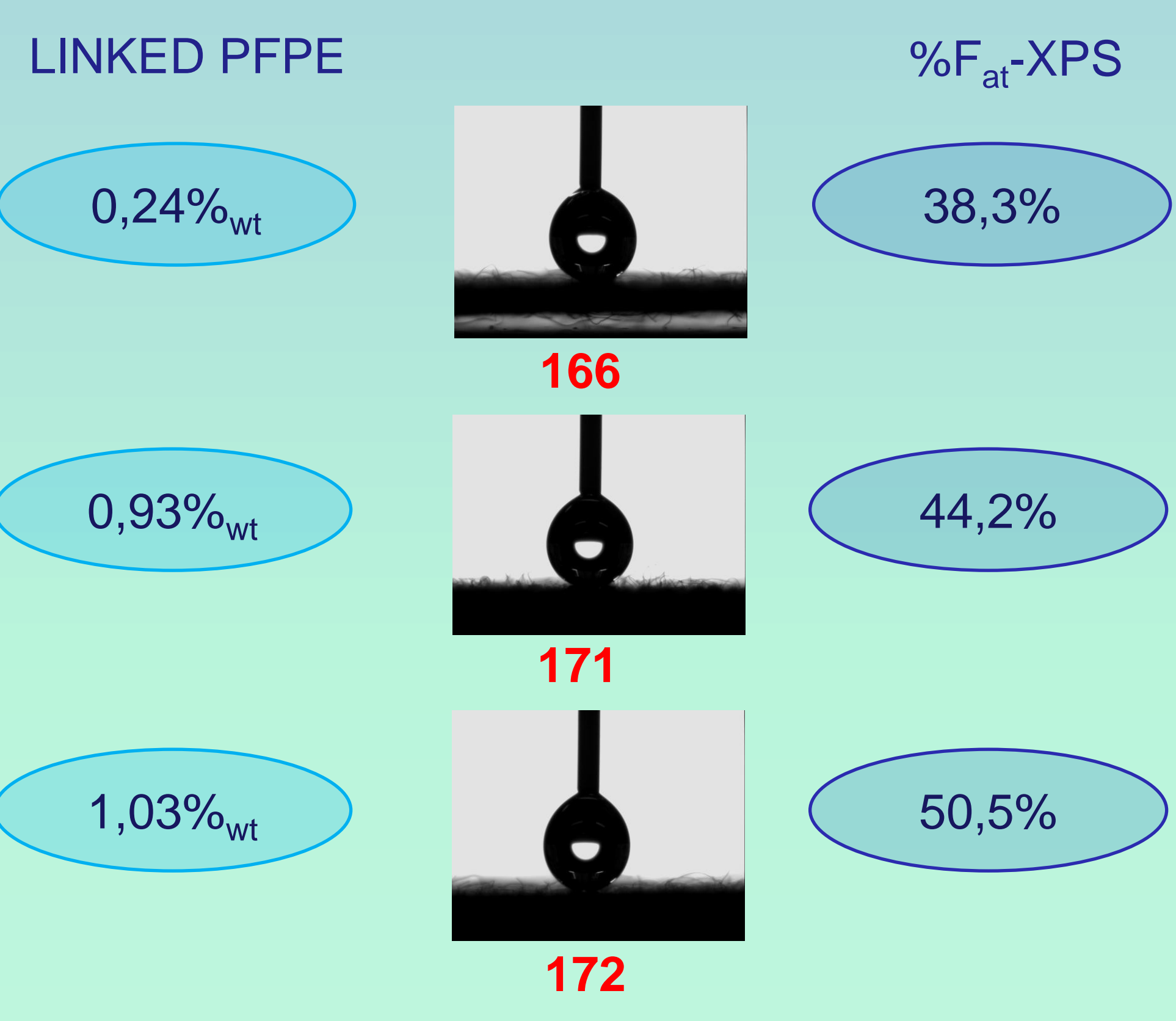
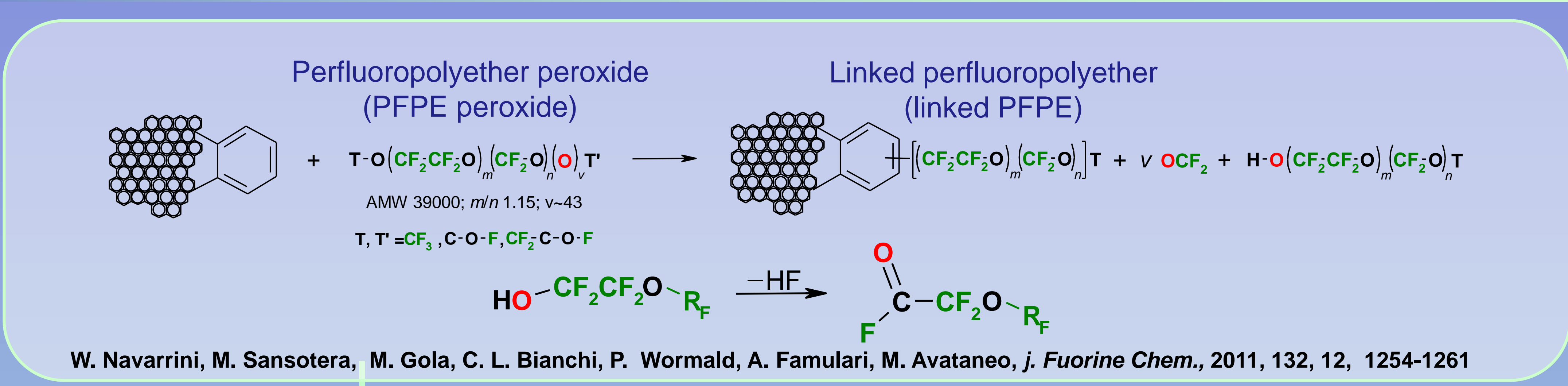
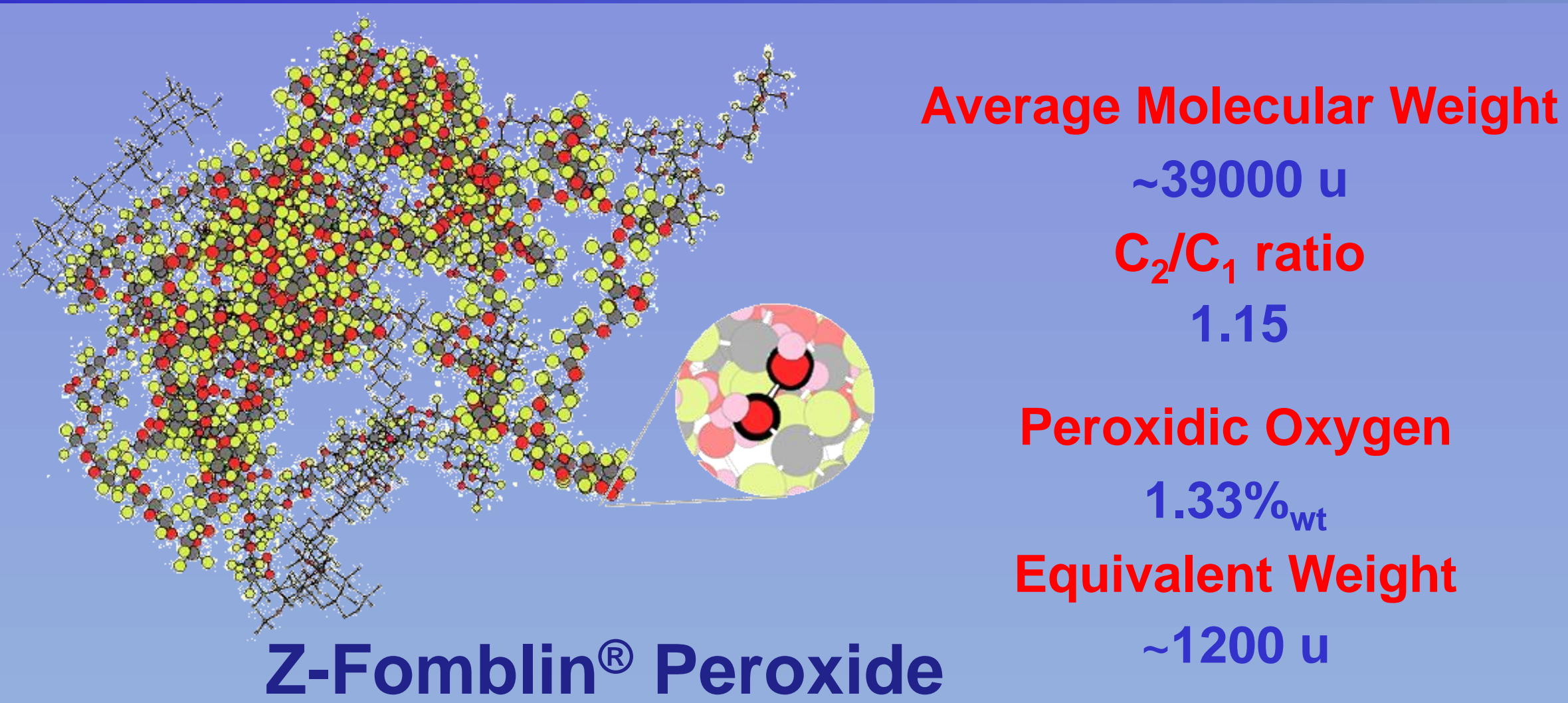


SUPERHYDROPHOBIC PROPERTIES AND ELECTRICAL PERFORMANCES OF PFPE-MODIFIED CARBONACEOUS MATERIALS FOR PEM-FCs

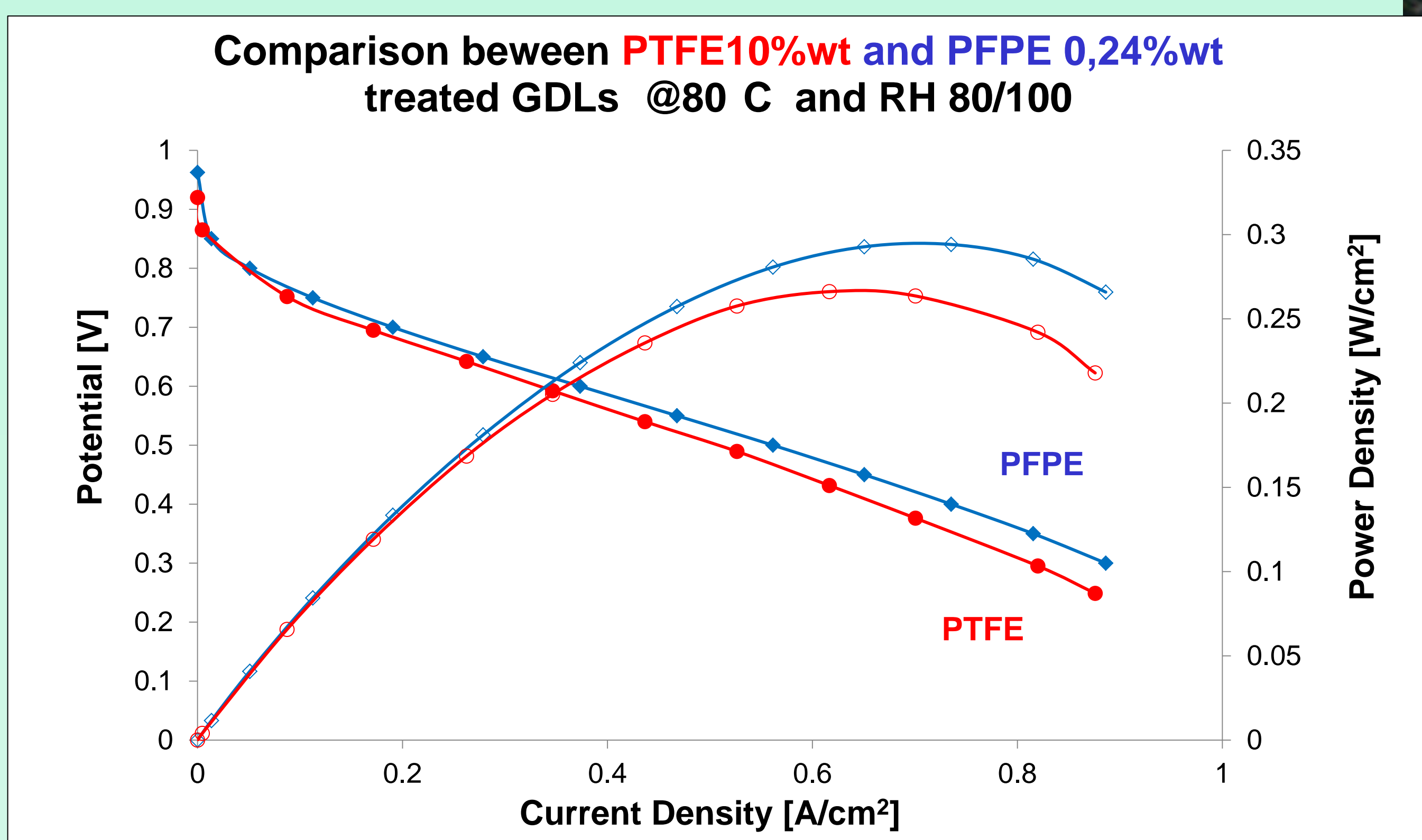
M. Gola^a, M. Sansotera^a, W. Navarrini^a, G. Dotelli^a, P. Gallo Stampino^a, C. L. Bianchi^b

^aDipartimento di Chimica, Materiali ed Ingegneria Chimica "Giulio Natta", Politecnico di Milano, 7, via Mancinelli, 20131, Milano, Italia

^bDipartimento di Chimica Fisica ed Elettrochimica, Università degli Studi di Milano, 19, Via Golgi, 20133, Milano, Italia

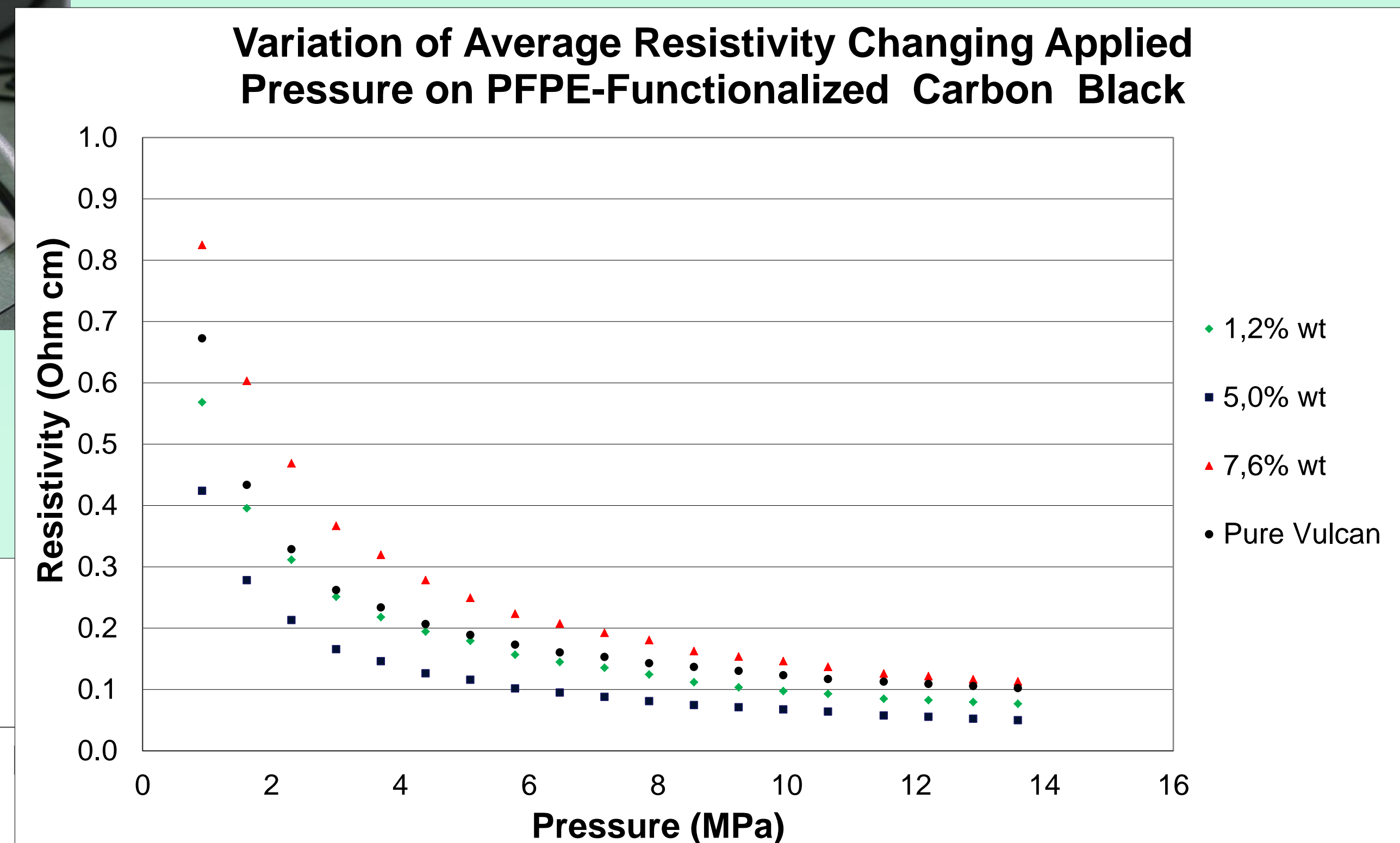
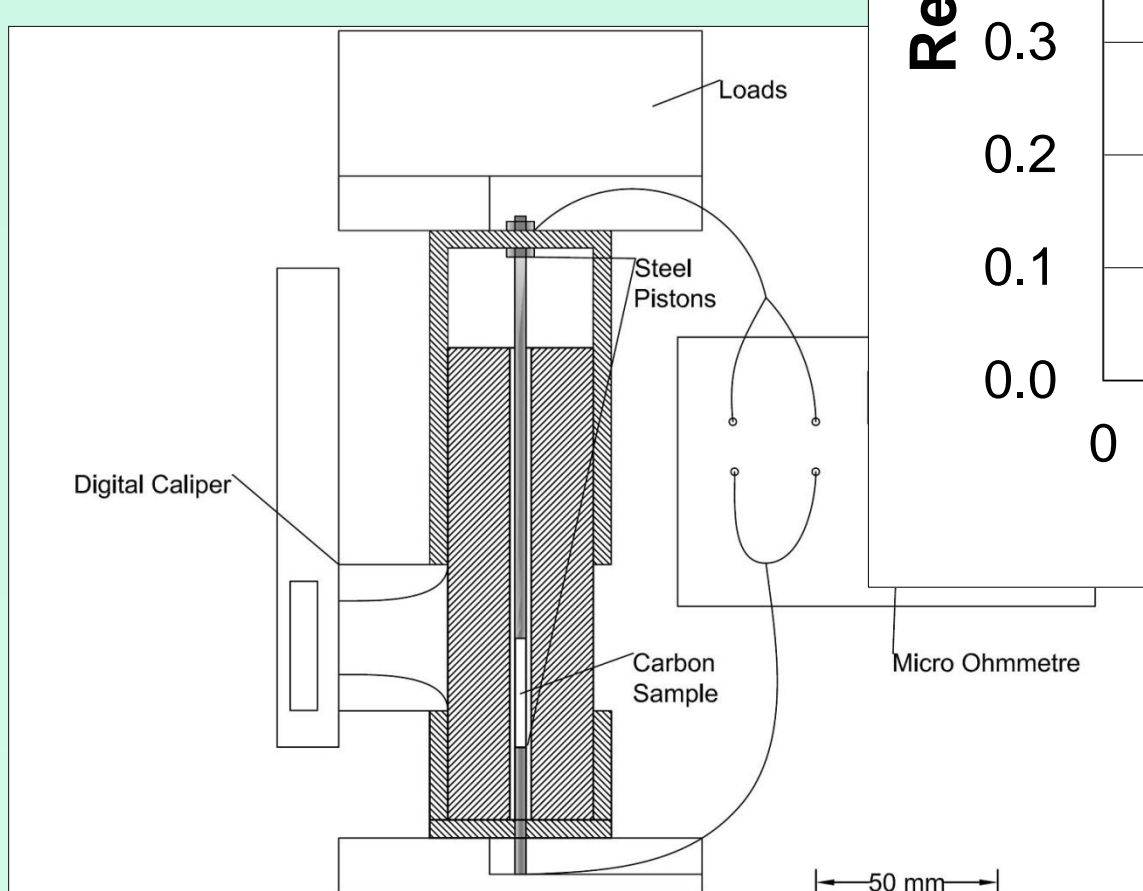
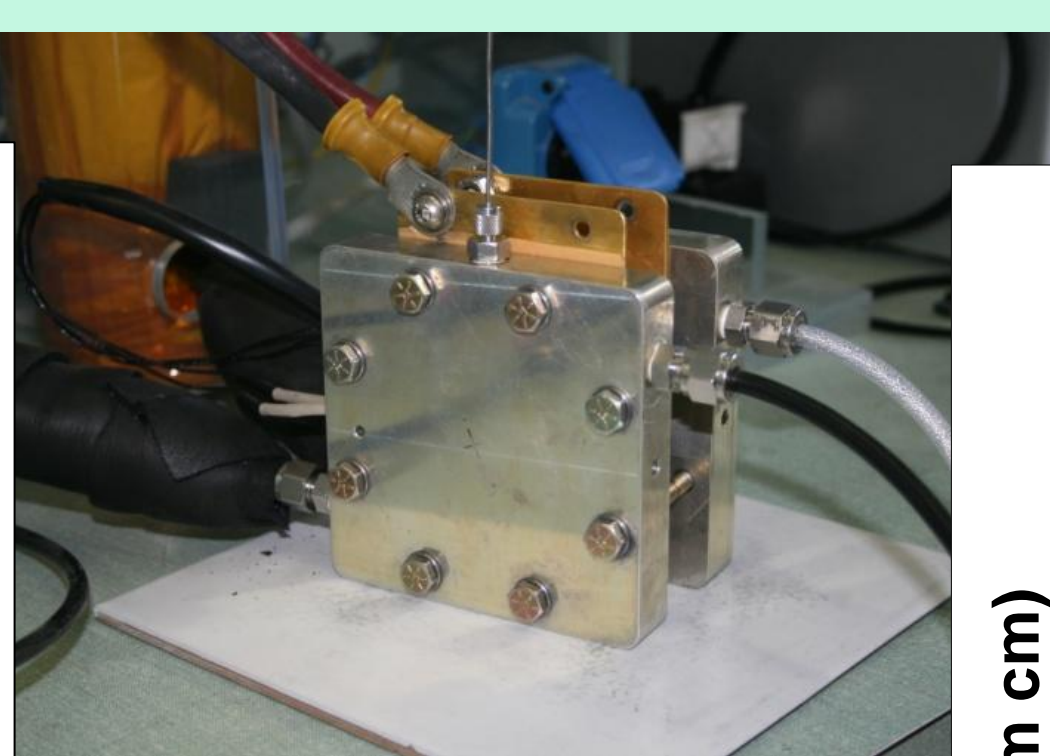


FUEL CELL TEST



Maurizio Sansotera, Walter Navarrini, Massimo Gola, Giovanni Dotelli, Paola Gallo Stampino, Claudia L. Bianchi, *Int. J. Hydrogen Energy.*, 2012, 32, 7, 6277-6284

RESISTIVITY TEST



Maurizio Sansotera, Walter Navarrini, Giuseppe Resnati, Pierangelo Metrangolo, Antonino Famulari, Claudia L. Bianchi, P. Antonio Guarda *Carbon*, 2010, 48, 15, 4382-4390

CONCLUSIONS

- Perfluoropolyether chains have been chemically linked on both carbon cloth and carbon black.
- The linkage of PFPE chains to carbonaceous substrates gives them high levels of hydrophobicity.
- The linkage of PFPE chains to carbonaceous materials does not compromise their electrical conductivity properties
- Carbon cloth gas diffusion layers hydrophobized with PFPE show better performances respect to PTFE hydrophobized one even with a much lower amount of fluorinated polymer

ACKNOWLEDGMENTS

Politecnico di Milano: Dr. F. Venturini; Dr. D. Picononi.
 Università degli Studi di Milano: Ms. S. Vitali.
 Solvay Specialty Polymers.: Dr. L. Merlo, P.A. Guarda.