

Supporting Information

# Simultaneous Enhancement of Flame Resistance and Antimicrobial Activity in Epoxy Nanocomposites Containing Phosphorus and Silver-Based Additives

Tăchiță Vlad-Bubulac <sup>1,\*</sup>, Corneliu Hamciuc <sup>1</sup>, Diana Serbezeanu <sup>1</sup>, Ana-Maria Macsim <sup>1</sup>, Gabriela Lisa <sup>2</sup>, Ion Anghel <sup>3</sup>, Dana-Maria Preda <sup>3</sup>, Yuri Kalvachev <sup>4</sup> and Cristina Mihaela Rîmbu <sup>5</sup>

- <sup>1</sup> Department of Polycondensation and Thermally Stable Polymers, "Petru Poni" Institute of Macromolecular Chemistry, 41A Grigore Ghica Voda Alley, 700487 Iasi, Romania; chamciuc@icmpp.ro (C.H.); diana.serbezeanu@icmpp.ro (D.S.); macsim.ana@icmpp.ro (A.-M.M.)
- <sup>2</sup> Department of Chemical Engineering, Faculty of Chemical Engineering and Environmental Protection, "Gheorghe Asachi" Technical University of Iasi, 73 Bd. Mangeron, 700050 Iasi, Romania; gapreot@yahoo.com
- <sup>3</sup> Fire Officers Faculty, Police Academy "Alexandru Ioan Cuza", 3 Morarilor St., Sector 2, 022451 Bucharest, Romania; ion.anghel@academiadepolitie.ro (I.A.); mariadana523@yahoo.com.sg (D.-M.P.)
- <sup>4</sup> Institute of Catalysis, Bulgarian Academy of Sciences, Acad. G. Bonchev St., bl.11, 1113 Sofia, Bulgaria; kalvachev@ic.bas.bg
- <sup>5</sup> Department of Public Health, Iasi University of Life Sciences, 8 Sadoveanu Alley, 707027 Iasi, Romania; crimbu@yahoo.com
- \* Correspondence: tvladb@icmpp.ro

**Figure S1.** FTIR spectrum of BPH.

**Figure S2.** <sup>1</sup>H NMR (a), <sup>13</sup>C NMR (b), <sup>31</sup>P NMR (c) and TG/DTG curves of BPH (d).

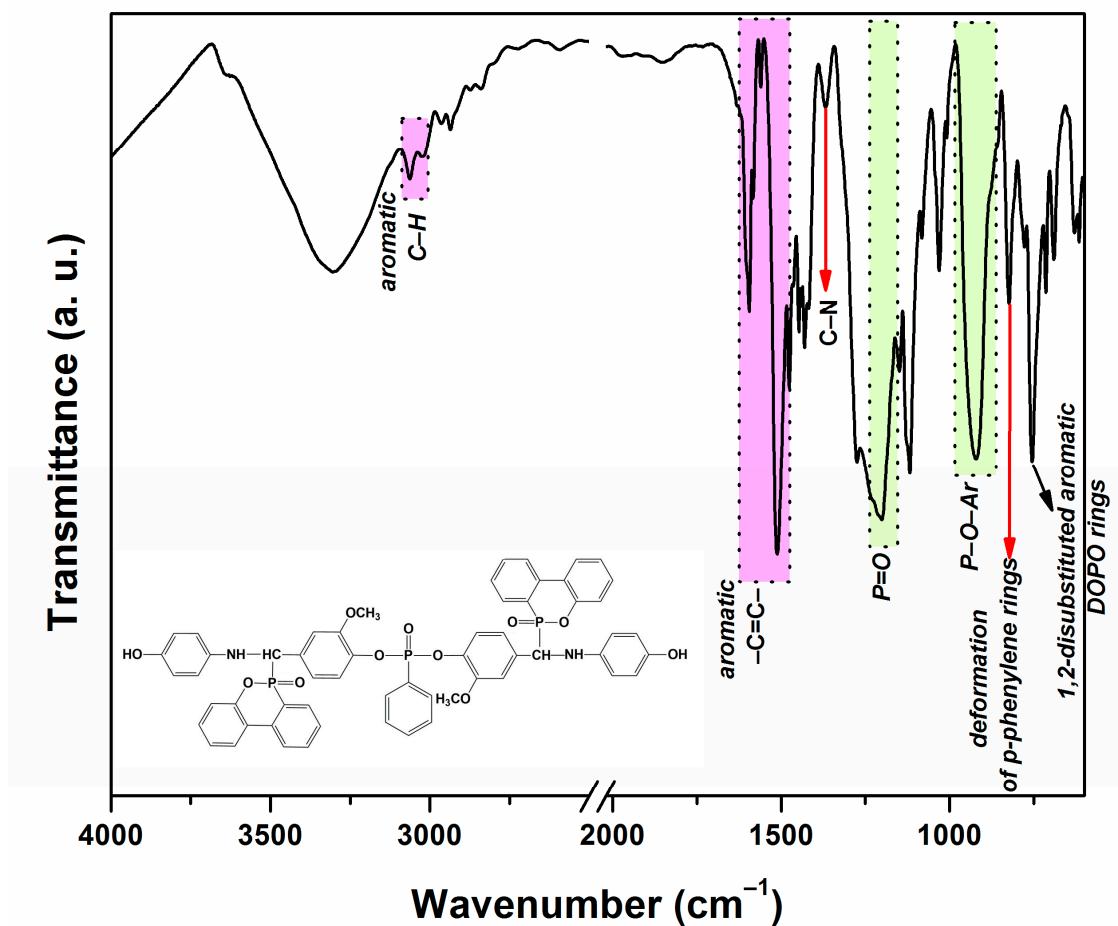
**Figure S3.** EDX mapping of EPZ-2.

**Figure S4.** EDX mapping of EPZ-3.

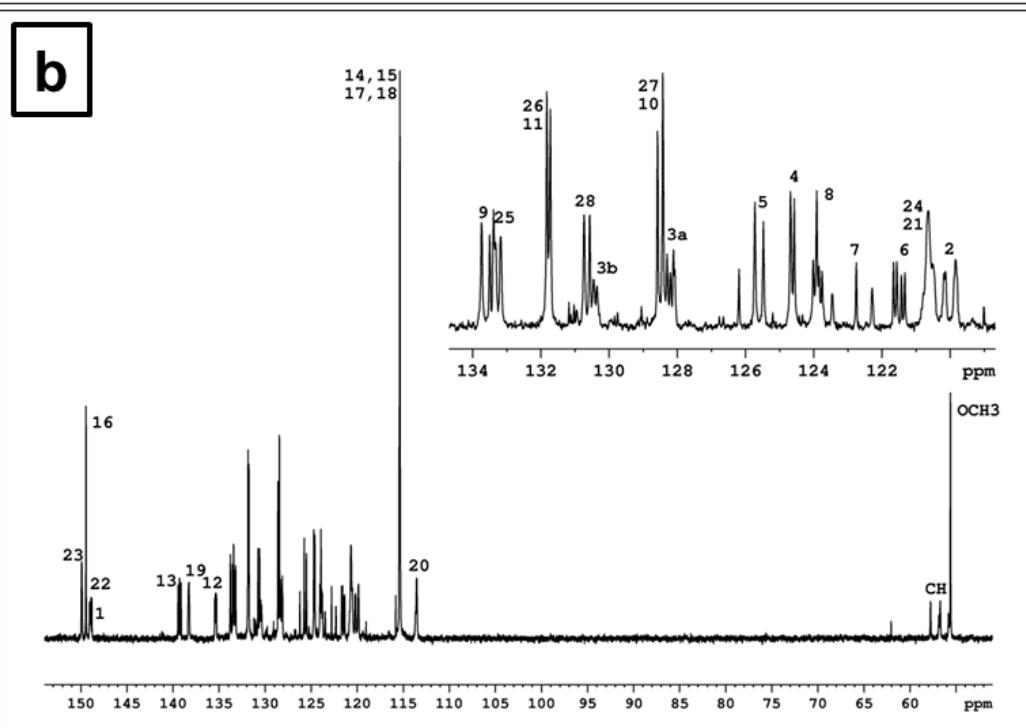
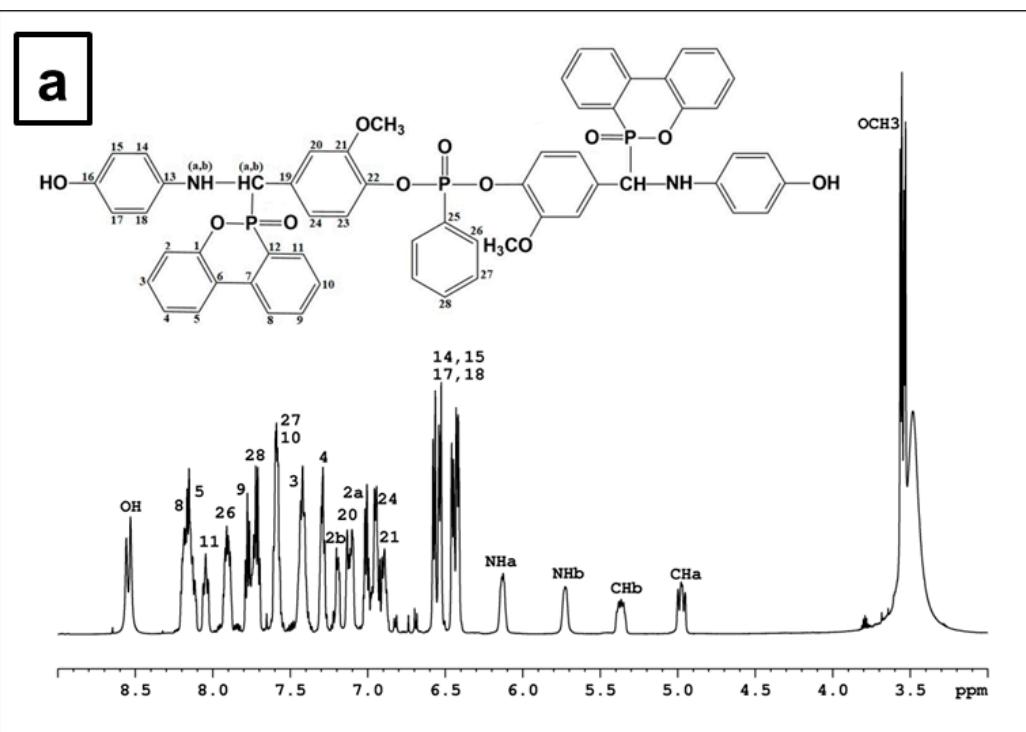
**Figure S5.** EDX mapping of EPZ-2 residue.

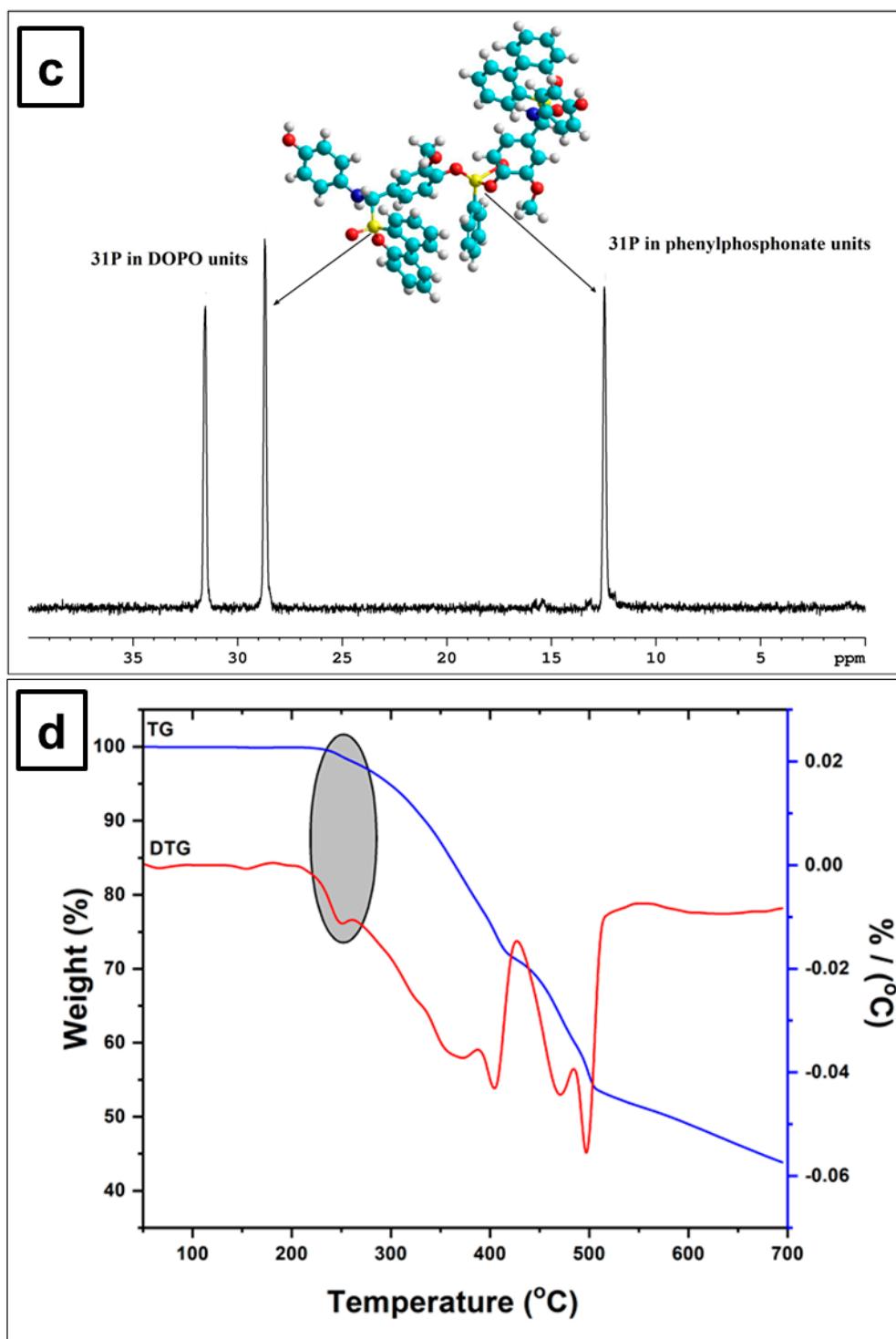
**Figure S6.** EDX mapping of EPZ-3 residue.

*Characterization of BPH:*

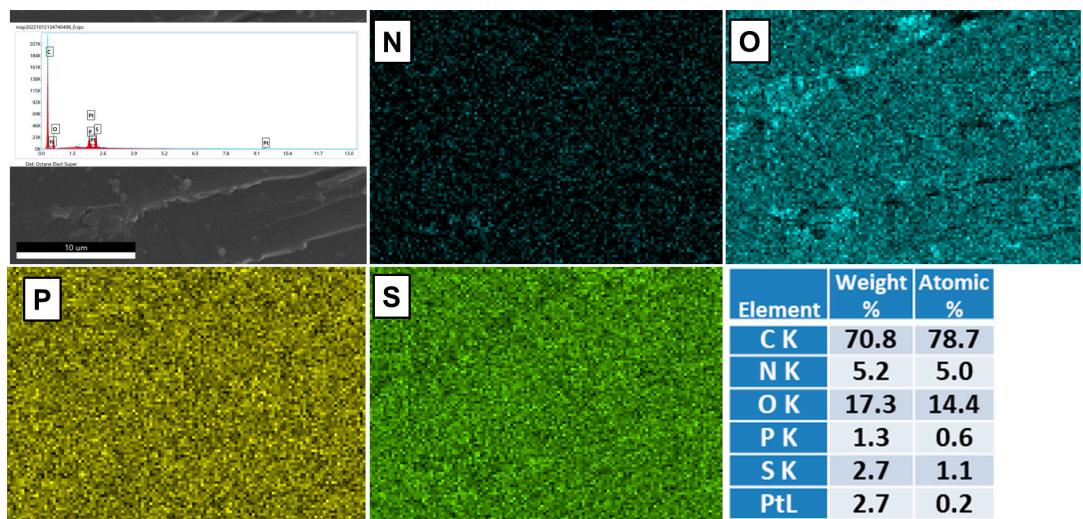


**Figure S1.** FTIR spectrum of BPH.

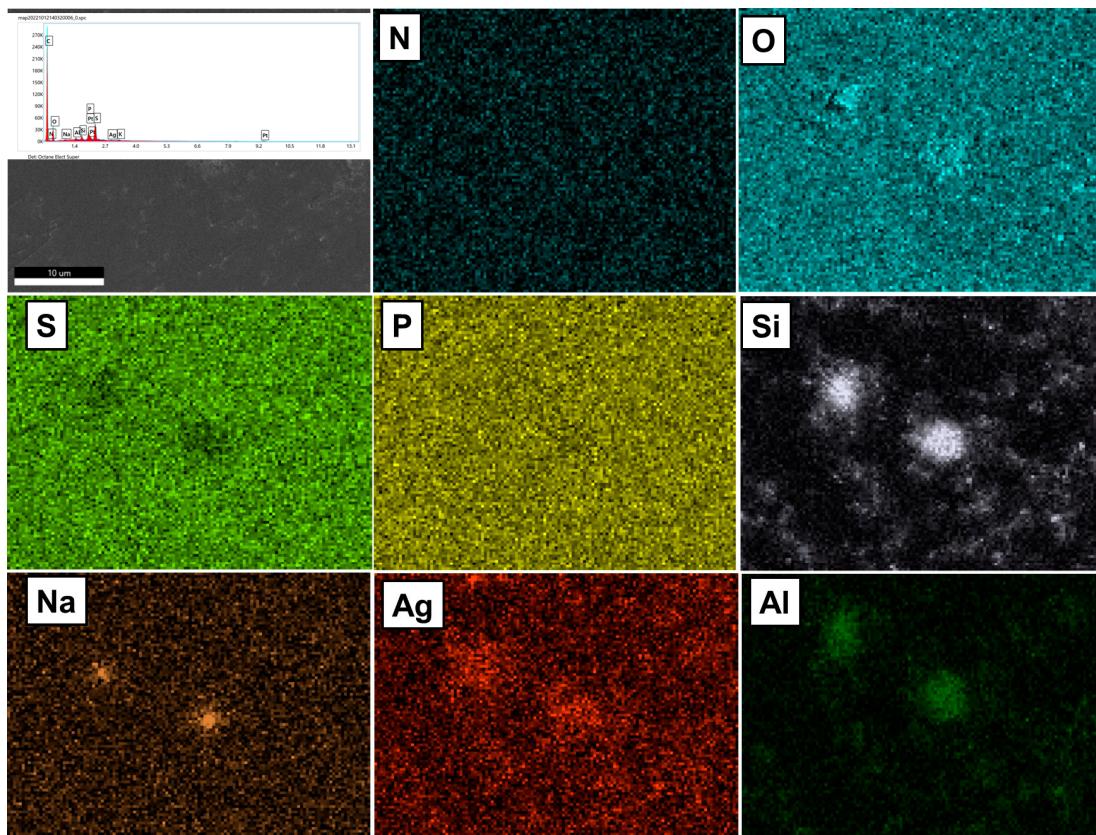




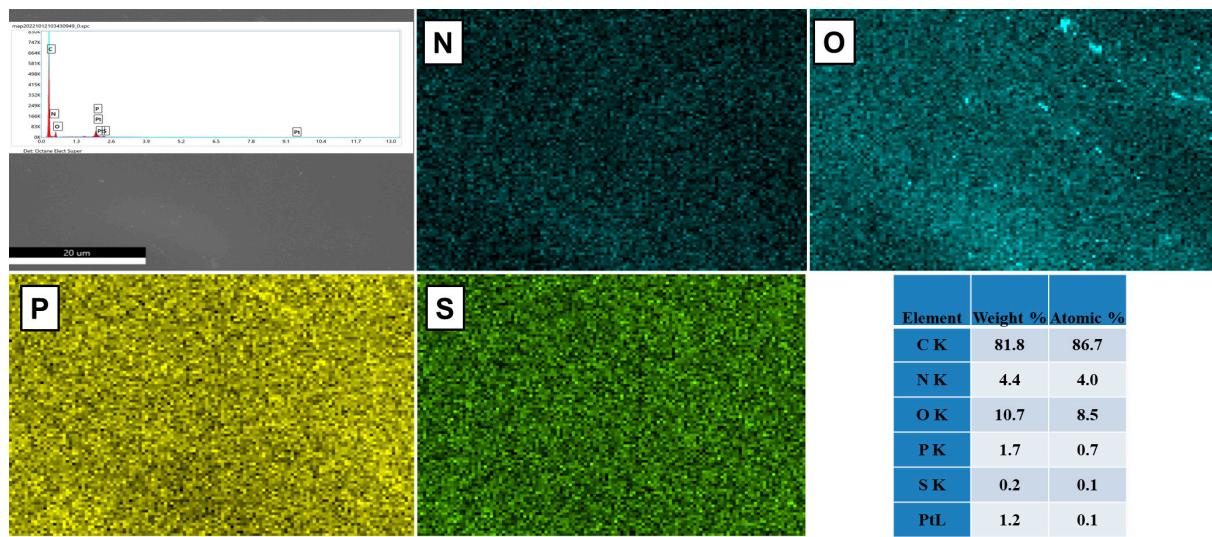
**Figure S2.**  $^1\text{H}$  NMR (a),  $^{13}\text{C}$  NMR (b),  $^{31}\text{P}$  NMR (c) and TG/DTG curves of BPH (d).



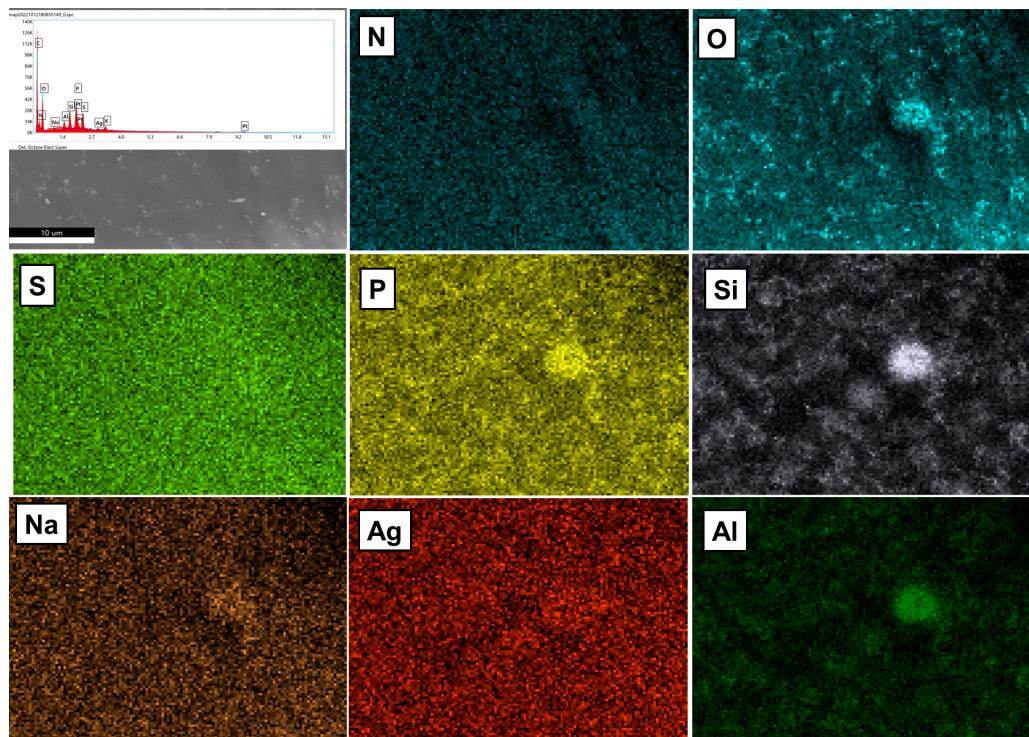
**Figure S3.** EDX mapping of EPZ-2.



**Figure S4.** EDX mapping of EPZ-3.



**Figure S5.** EDX mapping of EPZ-2 residue.



**Figure S6.** EDX mapping of EPZ-3 residue.