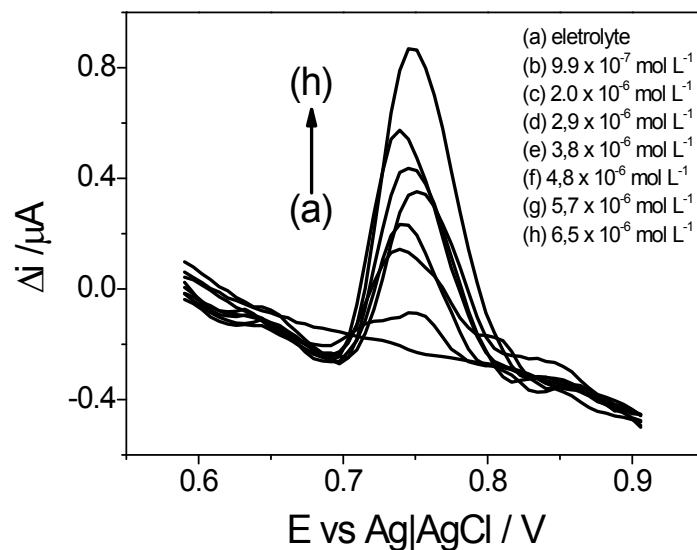


## Supplementary Data

### Influence of the copper complex in the sensor response

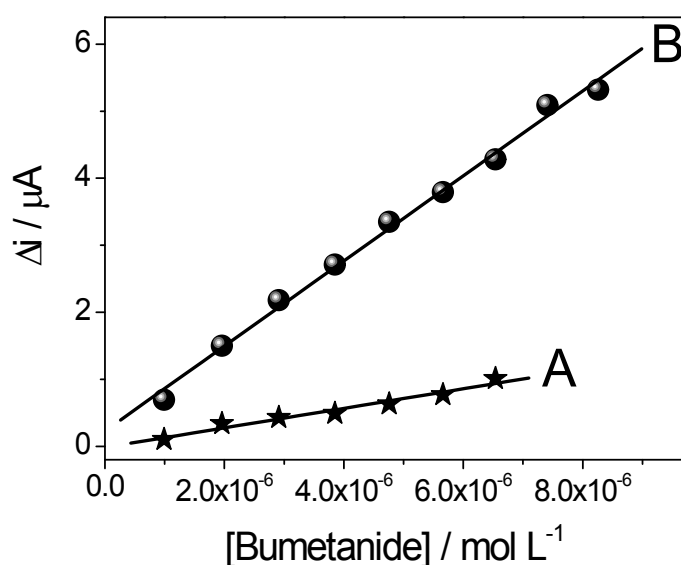
When compared the CPE response with Figure 7 (sensor response), is observed that the unmodified paste shows not quantitative currents and occurs adsorption of the oxidation product on the electrode surface, since the  $E_p$  change to each addition of analyte, differently those that is observed in the proposed sensor using the copper complex as modifier, in which the  $E_p$  appears at lower potential (700 mV vs Ag|AgCl). Thus, these results shows the importance of the biomimetic catalyst in the sensor construction and quantification of bumetanide.



**S1.** Typical square wave voltammograms obtained for successive additions of bumetanide using an unmodified carbon paste electrode (CPE).

The analytical curves for the CPE and proposed sensor (based on copper (II) 1, 2, 3, 4, 8, 9, 10, 11,15,16,17,18,22,23,24,25 hexadecafluoro-29-*H*,31-*H*-phthalocyanine) are shown in S2. For CPE the linear response was in the range from  $9.9 \times 10^{-7}$  to  $6.5 \times 10^{-6}$  mol L<sup>-1</sup>, adjusted by the mathematical equation (1):

$$I_p = -0.016 (\pm 0.052) + 145,815 (\pm 12,293) [\text{BMT}] \quad (R = 0.983) \quad (\text{eq. 1})$$



**S2.** Analytical curves in the absence (A) and presence (B) of complex CuPc in carbon paste. Measurements performed under optimized conditions.

In addition, for quantification of bumetanide, the modified carbon paste electrode (sensor) showed a sensitivity of about 4.4 times larger than the unmodified graphite.