**Table 1.** Comparison of the analytical performances in the detection of glyphosate using the composite electrodes proposed in the literature.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Electrode | Methodb | Sensing rangea  μmol L−1 | LODa  μmol L−1 | Refs. |  |
| CuO/MWCNTs-IL | DPV | 0.005 to 1.1 | 0.0013 | [48] |  |
| GC/rGO-CuNPs | DPV | 0.1 to 1.1 | 0.19 | [49] |  |
| GC/MWCNT/CuPc | DPV | 0.83 to 9.90 | 0.0122 | [50] |  |
| NiAl-LDH | Amperometric | 10.0 to 900.0 | 1.0 | [51] |  |
| SSMG/MB | DPV | 0.99 to 7.94 | 0.15 | **This work** |  |

**Notes:** MWCNTS, multi-walled carbon nanotube; IL, ionic liquid; CuO, copper oxide nanoparticle; GO, graphene oxide; CuNPs, copper oxide nanoparticle; GC, Glassy carbon; CuPc, Copper phthalocyanine; HMDE, Hanging Mercury Drop Electrode, NiAl-LDH**:** nickel/aluminum- layered double hydroxide.

**Table S1.** Percentual composition of each element found in the EDS analysis

| **Element** | **Atomic %** | **Weight %** |
| --- | --- | --- |
| C | 10.1 | 6.2 |
| Si | 28.2 | 40.4 |
| O | 63.2 | 48.0 |
| Sm | 8.4 | 5.4 |

|  |  |  |
| --- | --- | --- |
| **Table S2.** Optimization of the parameters used in the construction of the analytical curve of SSMG/MB for the determination of glyphosate | | |
| **Parameters** | **Studied Interval** | **Optimized Value** |
| **Scan rate** | 1–50 mV s-1 | 50 mV s-1 |
| **Pulse Amplitude** | 25 - 100 mV | 25 mV |
| **Balance Time** | 0 - 10 s | 5 s |
| **Electrode Composition** | 80:20 %  50:50 %  40:60 % | 82.7 % (w/w)  7.3 % C-graphite and, 10 % mineral oil |
| **Electrolyte Support and pH** | 5.0 - 8.0 | PBS (0,10 mol L– 1) and, 7.3 |

**Table S3.** Optimization of the parameters used in the construction of the analytical curve of SSMG/MB for the determination of glyphosate

|  |  |  |
| --- | --- | --- |
| **Physical and chemical parameters** | **Units** | **Results** |
| HCO3- | mg L-1 | 62.49 |
| Ca²+ | mg L-1 | 7.79 |
| CI- | mg L-1 | 0.09 |
| Na+ | mg L-1 | 16.09 |
| Sr | mg L-1 | 0.34 |
| Mg²+ | mg L-1 | 0.34 |
| K+ | mg L-1 | 1.48 |
| CO3-2 | mg L-1 | 3.91 |
| F- | mg L-1 | 0.05 |
| pH | - | 8.66 |