

Synthesis, characterization and ecotoxicity evaluation of biochar-derived carbon dots from Spruce tree, Purple moor-grass and African oil palm

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Table S1 Physicochemical analysis of *Molinia caerulea* biochar

| Physicochemical analysis of <i>Molinia caerulea</i> biochar | | | | |
|---|--------------------------------------|----------|--------|-------------------|
| Parameter | Method | Norm | Result | Unit |
| Density (20 °C) | Gravimetry | NTC 5167 | 0.09 | g/cm ³ |
| Total oxidizable organic Carbon | Titulometry | NTC 5167 | 5.91 | % |
| Humidity | Gravimetry | NTC 5167 | 4.87 | % |
| Total Cd | Atomic Absorption | SM 3111B | < 0.1 | ppm |
| Total Cr | Atomic Absorption | SM 3111B | < 1.0 | ppm |
| Total Ni | Atomic Absorption | SM 3111B | < 0.2 | ppm |
| Total Pb | Atomic Absorption | SM 3111B | < 0.5 | ppm |
| Hg | Cold Vapor Atomic Absorption | SM 3112A | < 0.01 | ppm |
| As | Hydride Generation/Atomic Absorption | SM 3114C | < 0.01 | ppm |

Table S2 Physicochemical analysis of *Elaeis guineensis* biochar

| Physicochemical analysis of <i>Elaeis guineensis</i> biochar | | | | |
|--|-------------------|----------|--------|-------------------|
| Parameter | Method | Norm | Result | Unit |
| Density (20 °C) | Gravimetry | NTC 5167 | 0.54 | g/cm ³ |
| Total oxidizable organic Carbon | Titulometry | NTC 5167 | 8.51 | % |
| Humidity | Gravimetry | NTC 5167 | 7.79 | % |
| Total Cd | Atomic Absorption | SM 3111B | < 0.1 | ppm |
| Total Cr | Atomic Absorption | SM 3111B | < 1.0 | ppm |

| | | | | |
|----------|--------------------------------------|----------|--------|-----|
| Total Ni | Atomic Absorption | SM 3111B | < 0.2 | ppm |
| Total Pb | Atomic Absorption | SM 3111B | < 0.5 | ppm |
| Hg | Cold Vapor Atomic Absorption | SM 3112A | < 0.01 | ppm |
| As | Hydride Generation/Atomic Absorption | SM 3114C | < 0.01 | ppm |