**Supplementary file for the article titled “Techno-economic and environmental approaches of Cd2+ adsorption by olive leaves (*Olea europaea* L.) waste”**

The adsorption performances were determined by equations Eq. S1 and Eq. S2.

 (S1)

 (S2)

where, *q*t is adsorption capacity (mg/g) at time = *t* (min), *R* is Cd2+ removal efficiency (%), *m* is biosorbent mass (g), *V* is solution volume (L), and *C*o, *C*e, and *C*t are Cd2+ concentrations at beginning, equilibrium, and *t*, respectively (mg/L).

Table. S1. Comparison of Cd2+ maximum adsorption capacity with those reported in the literature using various adsorbents.

|  |  |  |  |
| --- | --- | --- | --- |
| Adsorbent | *Q*m (mg/g) | *C*o (mg/L) | Reference |
| Fe0-nanoparticles | 769.2 | 25 – 450 | Boparai et al. (2011) |
| Mesoporous trapper | 526.3 | 10 | Soliman et al. (2017) |
| Pig manure biochar | 240.23 | 2 – 300 | Wang et al. (2018) |
| Bottlebrush seeds | 111.11 | 50 – 80 | Rao and Kashifuddin (2014) |
| Poultry manure derived biochar | 90.09 | 2 – 50 | Idrees et al. (2016) |
| Mango peel waste | 68.92 | 10 – 600 | Iqbal et al. (2009) |
| Magnetic graphene oxide | 45.05 | 5 – 300 | Huang et al. (2018) |
| Magnetic baker's yeast | 41.00 | 20 – 300 | Zhang et al. (2011) |
| Olive leaves waste | 32.57 | 25 – 400 | This study |
| Earthworm manure-derived carbon | 32.47 | 50 – 500 | Wang et al. (2017) |
| *Plesiomonas shigelloides* modified by carbon | 11.47 | 100 | Xue et al. (2018) |
| Clinoptilolite | 4.22 | 80 | Sprynskyy et al. (2006) |

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