## Supplementary Materials:

**Table S1**

Relative abundance of bacteria and fungi at genus level in rhizosphere soil

| Genus(bacteria) | CK | RB | Z1 | Z2 | RB-Z1 | RB-Z2 |
|---|---|---|---|---|---|---|
| Unassigned | 46.994% | 47.961% | 47.574% | 47.071% | 46.858% | 46.811% |
| Gp6 | 13.698% | 12.665% | 11.535% | 11.868% | 11.798% | 8.942% |
| Gaiella | 4.569% | 5.806% | 6.574% | 6.707% | 6.052% | 9.812% |
| Gp3 | 3.810% | 3.036% | 3.634% | 2.887% | 2.783% | 2.534% |
| Gp4 | 2.730% | 2.670% | 2.210% | 2.330% | 2.413% | 1.394% |
| Blastopirellula | 1.960% | 2.683% | 1.987% | 2.810% | 2.813% | 2.991% |
| Ohtaekwangia | 1.340% | 1.006% | 1.347% | 0.630% | 0.717% | / |
| Zavarzinella | 1.280% | 1.307% | 1.197% | 1.380% | 1.336% | 0.925% |
| WPS-1_genera_incertae_sedis | 0.962% | 0.668% | 0.680% | 0.858% | / | 0.523% |
| Reyranella | 0.946% | 0.802% | 1.023% | 0.809% | 0.905% | 0.568% |
| Blastococcus | 0.939% | 0.916% | 1.204% | 1.247% | 1.203% | 1.877% |
| Bradyrhizobium | 0.929% | 0.741% | 0.839% | 0.936% | 0.940% | 0.572% |
| Aridibacter | 0.925% | 0.978% | 0.846% | 0.960% | 0.986% | 0.680% |
| Hyphomicrobium | 0.888% | 1.100% | 0.934% | 1.125% | 1.356% | 1.165% |
| Gemmata | 0.855% | 0.929% | 0.936% | 0.921% | 0.934% | 0.746% |
| Chryseolinea | 0.750% | 0.761% | 0.861% | / | 0.736% | / |
| Gp16 | 0.750% | 1.077% | 1.060% | 1.227% | 1.210% | 1.847% |
| Gp17 | 0.707% | 0.681% | 0.715% | 0.861% | 0.710% | 0.551% |
| Pirellula | 0.666% | / | / | 0.657% | / | / |
| Nitrospira | 0.606% | 0.627% | / | / | 0.750% | 0.869% |
| Nocardioides | / | 0.647% | 0.812% | 0.843% | 0.884% | 1.744% |
| Solirubrobacter | / | / | 0.737% | 0.793% | 0.718% | 1.161% |

| Genus(fungi) | CK | RB | Z1 | Z2 | RB-Z1 | RB-Z2 |
|---|---|---|---|---|---|---|
| Ascomycota-Stachybotryaceae-Other | 12.591% | 8.981% | 11.746% | 8.212% | 15.761% | 5.906% |
| Fungi-Other | 11.690% | 7.826% | 12.364% | 8.837% | 9.113% | 7.849% |
| A-Sor-Hyp-Other | 9.651% | 7.597% | 8.929% | 7.812% | 7.889% | 8.143% |
| A-Sor-Hyp-Nectriaceae-Fusarium | 7.111% | 5.971% | 6.392% | 5.576% | 4.820% | 5.859% |
| A-Sor-Hyp-Hypocreaceae-Trichoderma | 7.079% | 3.846% | 6.515% | 3.846% | 4.576% | 3.594% |
| A-Sor-Other | 6.914% | 5.649% | 6.914% | 18.184% | 5.848% | 7.272% |
| A-Doth-Other | 4.337% | 8.598% | 4.341% | 6.781% | 6.809% | 6.436% |
| A-Sor-Hyp-Nectriaceae-Other | 3.199% | 4.741% | 3.028% | 4.893% | 3.772% | 6.755% |
| A-Doth-Ple-Ple-B-Curvularia | 3.087% | 5.398% | 4.412% | 5.600% | 6.163% | 4.899% |
| A-Sor-Con-Con-Coniochaeta | 3.020% | 2.602% | 2.938% | 4.226% | 4.990% | 6.435% |
| A-Sor-Hyp-B-Nectriaceae-nd | 2.092% | / | 1.688% | 1.116% | / | 1.695% |
| A-Other | 1.989% | 2.027% | 3.200% | 1.314% | 2.164% | 3.483% |
| A-Doth-Ple-Other | 1.877% | 1.504% | 1.424% | 1.103% | 1.243% | 1.141% |
| A-Sordariomycetes;nd;nd;nd | 1.604% | 1.490% | / | / | 0.886% | / |
| Bla-Bl-Bl-Cat-Catenaria | 1.510% | / | 1.173% | 2.620% | 2.103% | 2.308% |

| | | | | | | |
|---|---|---|---|---|---|---|
| A-Sor-Sor-B-Chae-Other | 1.340% | 5.032% | 1.140% | 2.114% | 4.066% | 4.233% |
| A-Eur-Eur-Asp-B-Aspergillus | 1.237% | 1.237% | 1.055% | 0.879% | 0.864% | / |
| Bas-Aga-Can-Cantharellales_fam_Incertae_sedis;Burgoa | 1.160% | / | 1.486% | / | / | / |
| A-Sor-Mic-Mic-Pseudallescheria | 1.120% | / | 1.074% | 0.878% | / | 1.248% |
| A-Pez-Pez-Pyronemataceae;nd | 0.968% | / | / | 0.801% | 0.980% | 2.563% |
| Chy-nd;nd;nd;nd | / | 3.926% | / | / | / | / |
| A-Sor-Sor-Other | / | 2.970% | / | / | 0.970% | / |
| A-nd;nd;nd;nd | / | 2.215% | 1.428% | / | 1.236% | / |
| A-Leo-Hel-Hel-Scytalidium | / | 1.162% | 1.104% | 0.950% | 1.489% | 2.006% |
| A-Doth-Ple-Ple-B-Bipolaris | / | / | / | 0.822% | / | 0.973% |
| A-Sor-Sor-Sor-B-Other | / | / | / | / | / | 1.881% |

CK, blank soil; RB, rice straw biochar; Z1, low accumulated cultivar (New Beijing 3); Z2, non-low accumulated cultivar (Beijingxiaoza 56); RB+Z1, biochar and New Beijing 3; RB+Z2, biochar and Beijingxiaoza 56.

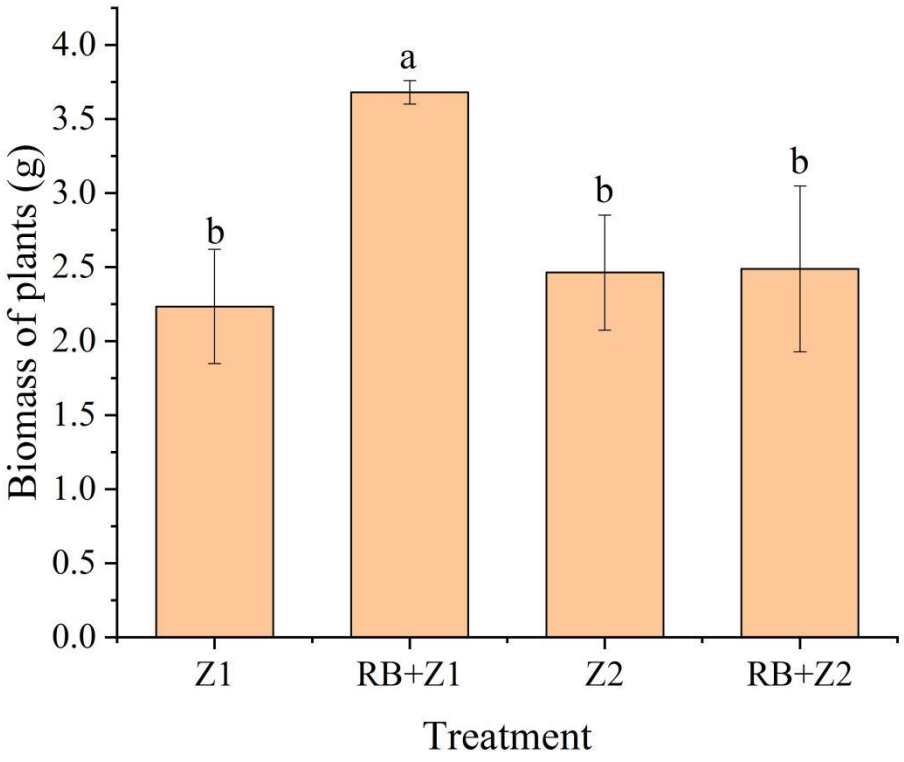



**Figure S1.** Fresh biomass of plants in e-waste dismantling soils under different treatments. Values with the same letter are not significantly different within different treatments ($p < 0.05$)