

Table S1. Direct evaluation of the soil biodegradation process after 40 days of direct contact with soil.

| Materials | Mass per unit area (g/cm ²) | Weight loss (%) | Visually/SEM index |
|-----------------------------------|--|------------------------------|--------------------|
| | initial | after 40 days biodegradation | |
| Cotton - soil #1 | 1.835±0.03 | - | +++ |
| Cotton - soil #2 | | - | +++ |
| Linen - soil #1 | 2.118±0.02 | 43.127 | ++++ |
| Linen - soil #2 | | 36.019 | +++ |
| Wool- soil #1 | 1.959±0.10 | - | +++ |
| Wool - soil #2 | | - | ++ |
| Leather - soil #1 | 2.561±0.04 | 8.984 | + |
| Leather - soil #2 | | 6.093 | + |
| Sanitary pad brand A - soil #1 | 0.028±0.015 | - | - |
| Sanitary pad brand A-soil #2 | | - | - |
| Sanitary pad brand B - soil #1 | 0.026±0.007 | - | - |
| Sanitary pad brand B-soil #2 | | - | + |
| Cosmetic disk brand A-soil #1 | 0.020±0.04 | 23.883 | ++ |
| Cosmetic disk brand A-soil #2 | | 27.537 | ++ |
| Cosmetic disk brand C- soil #1 | 0.019±0.02 | 22.069 | ++ |
| Cosmetic disk brand C-soil #2 | | 26.410 | ++ |
| Antibacterial wet wipe - soil #1 | 0.0045±0.01 | 24.332 | - |
| (dry) | | | |
| Antibacterial wet wipe - soil #2 | 0.0042±0.01 | 19.881 | - |
| (dry) | | | |
| Sanitary wet wipe - soil #1 (dry) | 0.0042±0.01 | 23.077 | - |
| Sanitary wet wipe - soil #2 (dry) | | 13.461 | - |

Legend: level of biodegradation ++++ very high, +++ high, ++ medium + low - no biodegradation.

Table S2. Indirect evaluation of the soil biodegradation process after 40 days of direct contact with soil.

| Materials | NTG (CFU/g soil) | Cellulolytic activity increased (%) | # of fungal strain isolated |
|----------------------------------|---------------------|---|-----------------------------------|
| Soil #1 | 5.5×10^7 | 100 | |
| Soil # 2 | 1.2×10^7 | 100 | |
| Linen- soil #1 | 2.5×10^9 | 588 | 1 |
| Sanitary pad brand A - soil #1 | 3.2×10^8 | 101 | 2 |
| Sanitary pad brand A-soil #2 | 2.6×10^8 | 94.5 | |
| Sanitary pad brand B - soil #1 | 3.5×10^8 | 98.5 | |
| Sanitary pad brand B-soil #2 | 1.4×10^8 | 93.8 | |
| Cosmetic disk brand A-soil #1 | 5.6×10^8 | 207 | 3,4 |
| Cosmetic disk brand A-soil #2 | 8.9×10^8 | 343.5 | |
| Cosmetic disk brand C- soil #1 | 5.1×10^8 | 213.4 | |
| Cosmetic disk brand C-soil #2 | 7.3×10^8 | 309.8 | 5,6 |
| Antibacterial wet wipe - soil #1 | 4.3×10^4 | 133 | |
| Antibacterial wet wipe - soil #2 | 3.9×10^4 | 126 | 7 |
| Sanitary wet wipe - soil #1 | 5.7×10^4 | 116.7 | 8 |
| Sanitary wet wipe - soil #2 | 4.1×10^4 | 127.8 | |