

Supplied Materials

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21

**Micro-aerobic digestion of high-solid anaerobically digested sludge: further
stabilization, microbial dynamics and phytotoxicity reduction**

Xiaowei Li ^{2,1}, Zonghan Li¹, Xiaohu Dai^{1*}, Bin Dong^{1*}, Yanfei, Tang¹

¹State Key Laboratory of Pollution Control and Resources Reuse, National
Engineering Research Center for Urban Pollution Control, College of Environmental
Science and Engineering, Tongji University, Shanghai 200092, PR China

²School of Environmental and Chemical Engineering, Shanghai University, Shanghai
200444, China

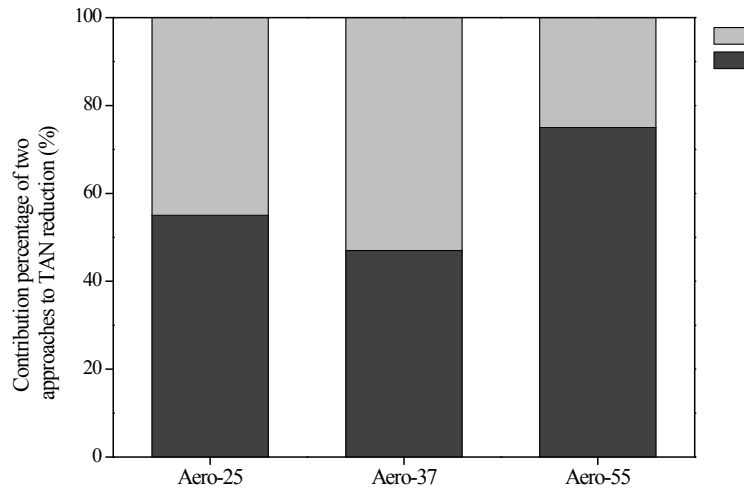
*Corresponding author. E-mail: lixiaowei419@163.com (Dai X), 84370169@qq.com
(Dong B)

The Number of Pages: 8
The Number of Tables: 1
The Number of Figures: 6

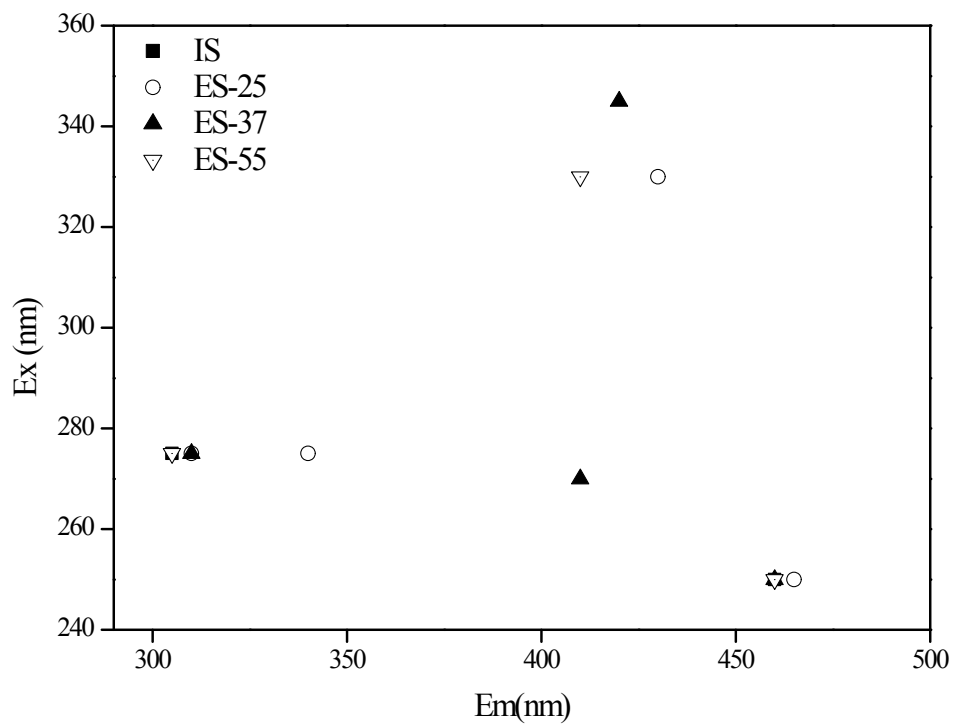
22 Table S1 Summary of Illumina MiSeq sequencing data of the samples

| Samples | Influent sludge (IS) | Effluent sludge (ES) | | |
|------------------------------------|-------------------------|----------------------|---------|---------|
| | | 25 °C | 37 °C | 55 °C |
| number of sequences | 15356 | 10482 | 14182 | 10027 |
| Total length of sequences (bp) | 6569991 | 4595719 | 6172200 | 4393712 |
| Average length of sequences (bp) | 428 | 438 | 435 | 438 |
| Operational taxonomic units (OTUs) | 149 | 146 | 142 | 144 |
| Chao value | 158 | 152 | 150 | 162 |
| ACE value | 153 | 153 | 150 | 163 |

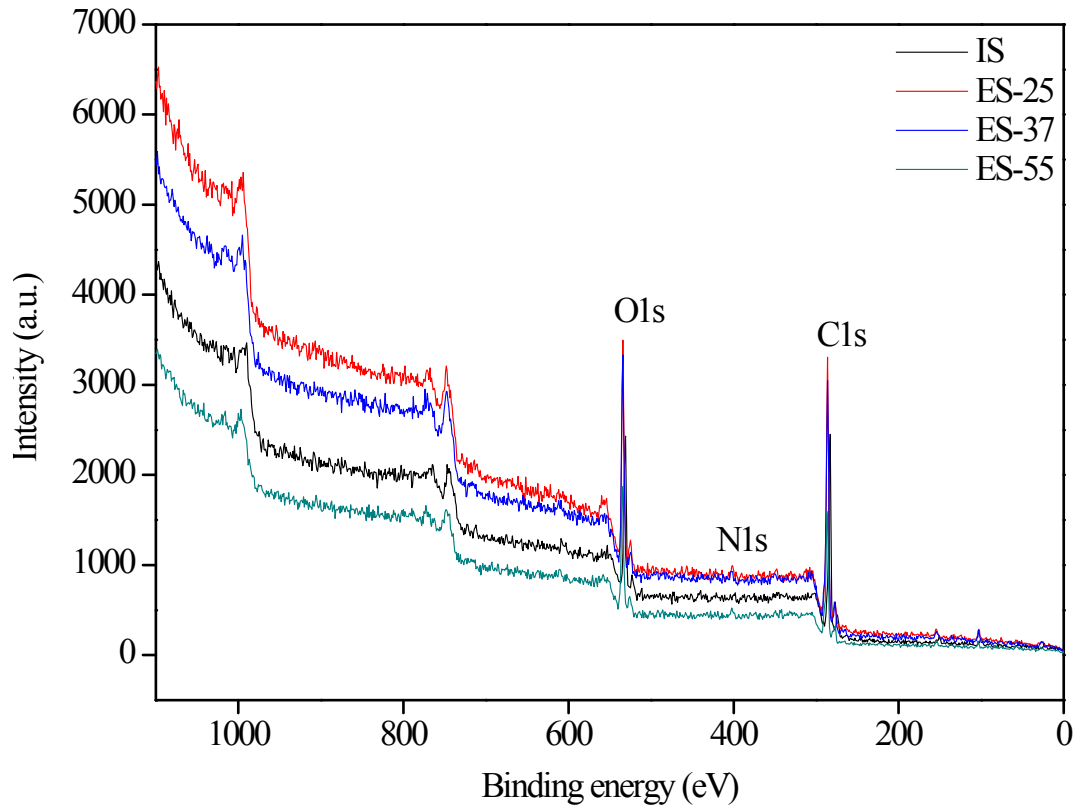
23



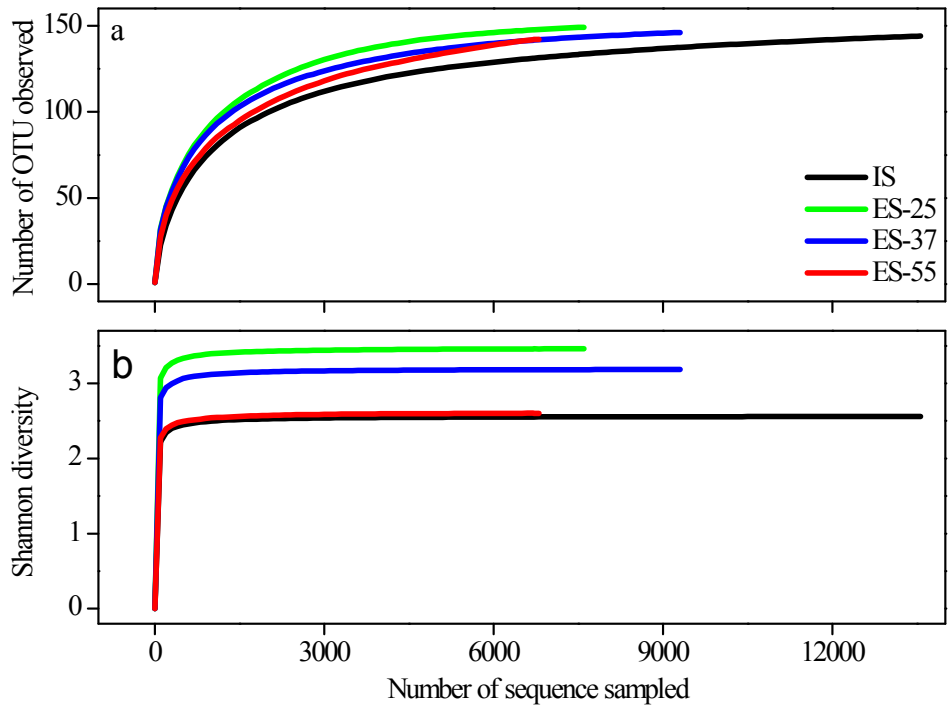
25
 26 Fig. S1 Contribution of nitrification/denitrification and stripping to TAN reduction in three micro-
 27 aerobic digesters. Aero-25, Aero-37 and Aero-55, Aerobic digesters operated at 25 °C, 37 °C and
 28 55 °C



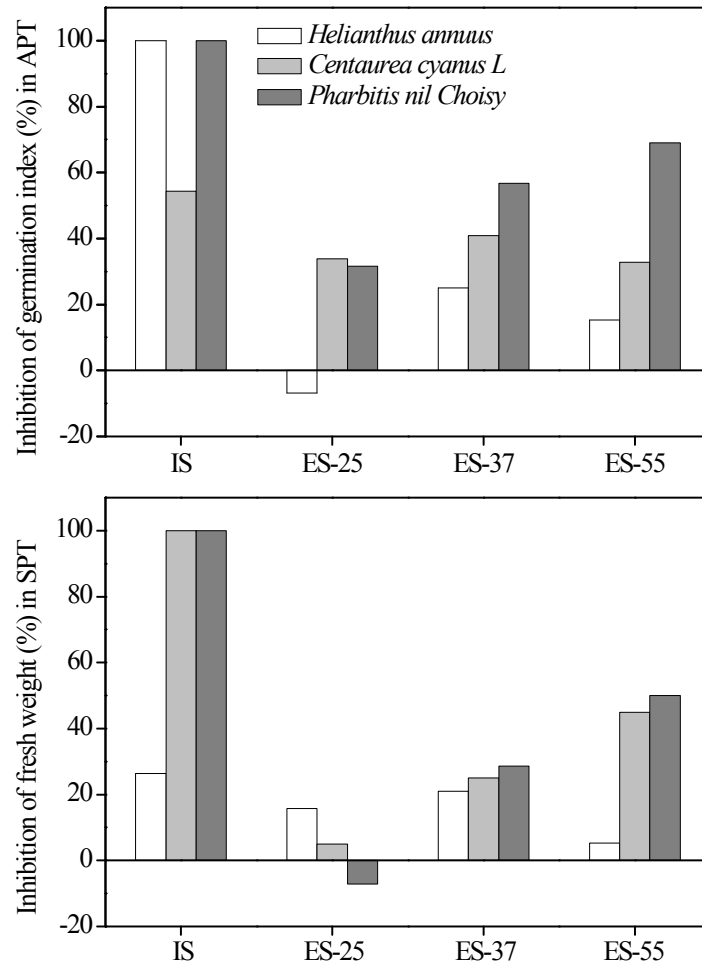
29
 30 Fig. S2 Distribution of excitation-emission matrix maxima from influent and effluent sludges of
 31 micro-aerobic digesters at 25, 37 and 55 °C (IS, ES-25, ES-37, ES-55)



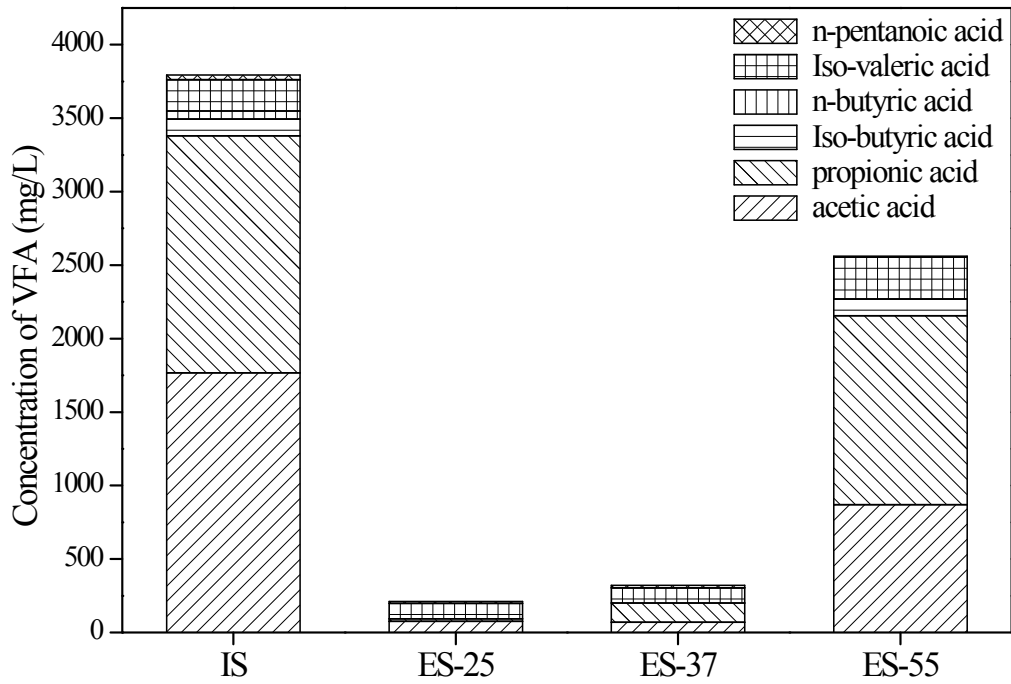
32
33 Fig. S3 XPS full spectra of four sludge samples. IS, influent sludge; ES-25, ES-37 and ES-55,
34 effluent sludge from the micro-aerobic digesters operated at 25, 37 and 55 °C, respectively.



36
 37 Fig. S4 Rarefaction (a) and Shannon diversity (b) curves of the samples at 3% cutoff OTU level



39
 40 Fig. S5 Acute and subchronic phytotoxicity test of the influent and effluent sludges samples using
 41 three types of seeds (*Helianthus annuus*, *Centaurea cyanus L.* and *Pharbitis nil Choisy*). APT,
 42 acute phytotoxicity test; SPT, subchronic phytotoxicity test; IS, influent sludge; ES-25, ES-37 and
 43 ES-55, effluent sludge from the micro-aerobic digesters operated at 25, 37 and 55 °C, respectively.
 44



45
 46 Fig. S6 Changes in the contents of volatile fatty acid (VFA) in the influent and effluent sludges of
 47 three micro-aerobic digesters at the steady operation. IS, influent sludge; ES-25, ES-37 and ES-55,
 48 the effluent sludge from the micro-aerobic digestion reactors operated at 25 °C, 37 °C and 55 °C,
 49 respectively; controls, the sludge was replaced by the peat.