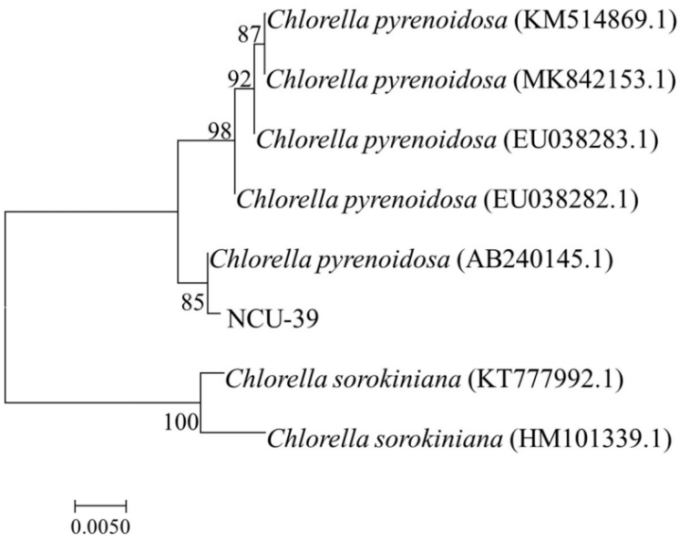

Figure S1 Phylogenetic tree of NCU-39 and *Chlorella* genus based on 18s rRNA gene sequences. GenBank accession number of each species is shown in parenthesis. Numbers at the nodes indicate bootstrap values (expressed as a%) with 1000 replicates and the scale bar measures the distance between species.

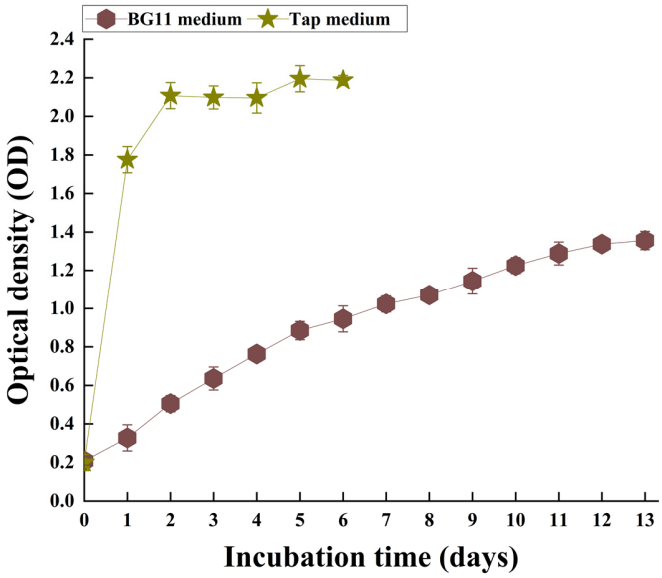

Figure S2 Growth curve of NCU-39 in BG11 and Tap medium. Error bars represent standard deviations (n = 3).

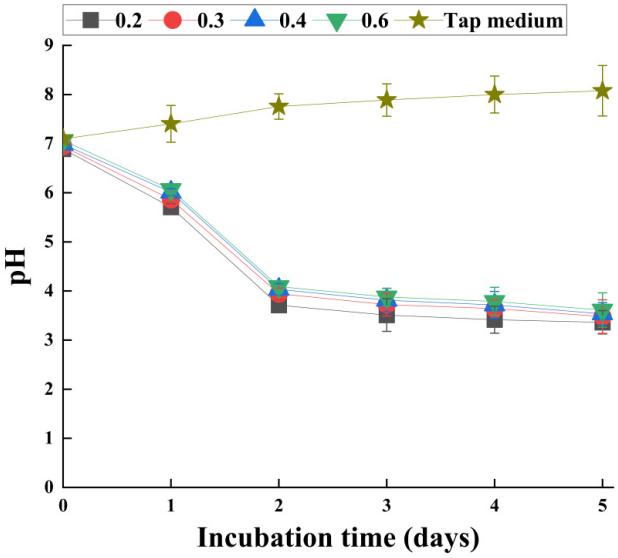

Figure S3 pH levels at different initial optical densities (ODs) (OD values = 0.2, 0.3, 0.4 and 0.6) in 5-fold diluted anaerobic digestion piggery effluents (ADPEs) pretreated by 3-day fungal decolorization. Tap medium was used as a control. Error bars represent standard deviations (n = 3).

Table S1 Chemical composition of Rose Bengal medium.

Chemicals	Concentration ($g\ L^{-1}$)
Peptone	5
Glucose	10
KH_2PO_4	1
$MgSO_4 \cdot 7H_2O$	0.5
Agar	20
Rose Bengal	0.033
Chloramphenicol	0.1

Table S2 Chemical composition of PDB medium.

Chemicals	Concentration ($g\ L^{-1}$)
Potato powder	5
Glucose	15
Peptone	10
NaCl	50

Table S3. Homology among 18s rRNA gene sequences of NCU-39 and GenBank strains

rRNA length (bp)	Database strain	Genbank accession No.	Proximity (%)
776	*Chlorella pyrenoidosa*	AB240145.1	99.9
	Chlorella pyrenoidosa	KM514869.1	99.0
	Chlorella pyrenoidosa	MK842153.1	99.1
	Chlorella pyrenoidosa	EU038283.1	99.1
	Chlorella pyrenoidosa	EU038282.1	99.0
	Chlorella sorokiniana	KT777992.1	95.8
	Chlorella sorokiniana	HM101339.1	95.5

Table S4 Chemical composition of Tap medium with 1 mL L^{-1} of acetic acid.

Chemicals	Concentration ($g\ L^{-1}$)
Tris salt	2.42
NH_4Cl	15
$CaCl_2•2H_2O$	2
$MgSO_4•7H_2O$	4
K_2HPO_4	0.028
KH_2PO_4	0.014
EDTA	0.2
$ZnSO_4•7H_2O$	0.22
H_3BO_3	0.057
$MnCl_2•4H_2O$	0.101
$CoCl_2•6H_2O$	0.032
$CuSO_4•5H_2O$	0.031
Ammonium molybdate	0.022
$FeSO_4•7H_2O$	0.099
pH	7.0

Table S5 Chemical composition of BG11 medium

Chemicals	**Concentration (mg L^{-1})**
$NaNO_3$	1500
Na_2CO_3	20
$MgSO_4 \cdot 7H_2O$	75
$CaCl_2 \cdot 2H_2O$	36
K_2HPO_4	40
Citric Acid·H_2O	6
$Na_2EDTA \cdot 2H_2O$	1
Ferric Ammonium Citrate	6
H_3BO_3	2.86
$MnCl_2 \cdot 4H_2O$	1.81
$ZnSO_4 \cdot 7H_2O$	0.22
$Na_2MoO_4 \cdot 2H_2O$	0.39
$CuSO_4 \cdot 5H_2O$	0.079
$Co(NO_3)_2 \cdot 6H_2O$	0.0494

Table S6 Homology among 26s rRNA gene sequences of NU-27 and GenBank strains

rDNA length (bp)	Database strain	Genbank accession No.	Proximity (%)
695	*Lichtheimia ornata*	MG772618.1	99.9%
	Lichtheimia ornata	MN166087.1	99.9%
	Lichtheimia ornata	MG772621.1	99.7%
	Lichtheimia ornata	JX961703.1	99.6%
	Lichtheimia ornata	MH870981.1	99.3%
	Lichtheimia corymbifera	MH866174.1	97.6%
	Lichtheimia ramosa	LR993205.1	95.0%
	Lichtheimia hongkongensis	MN197701.1	94.6%