Supplementary material

Article name: Simultaneous Extraction, Separation and Purification of Microbial Genomic DNA and Total RNA from Acidic Habitat Samples

Running title: Simultaneous Recovery of Microbial DNA and RNA

A. Supporting tables

B. Supporting figures

Table S1 Nucleic acid separated by different concentration of LiCl.

LiCl	DNA			RNA		
	Amount(μg)	$A_{260/280}$	$A_{260/230}$	Amount(μg)	$A_{260/280}$	$A_{260/230}$
10M	10.4±0.2	2.17±0.01	2.33±0.02	9±1	1.89±0.04	1.33±0.03
12.5M	7.2±0.3	2.03±0.02	2.08±0.01	11.8±0.3	1.99±0.02	1.57±0.01
15M	4.10±0.05	1.96±0.04	1.96±0.03	13.65±0.01	2.06±0.01	1.71±0.00
17.5M	2.7±0.1	2.19±0.04	2.42±0.02	17.1±0.3	2.01±0.01	1.76±0.02
Saturated	3.9±0.1	1.92±0.02	1.61±0.02	22.50±0.05	2.04±0.01	1.76±0.01

Table S2 DNA and RNA separated at different initial nucleic acid concentration by using saturated LiCl.

Conc. Of initial nucleic acid/ng*μL^{-1}	DNA			RNA		
	Amount(μg)	$A_{260/280}$	$A_{260/230}$	Amount(μg)	$A_{260/280}$	$A_{260/230}$
100	1.5±0.2	1.85±0.01	2.1±0.1	1.6±0.1	2±0.1	2±1
200	2.99±0.08	1.81±0.03	1.76±0.02	4.47±0.08	2.02±0.03	1.9±0.2
400	4.1±0.1	1.96±0.02	1.96±0.02	13.6±0.8	1.96±0.01	1.71±0.07
600	7.9±0.1	1.93±0.04	1.7±0.2	16.15±0.02	1.97±0.01	1.72±0.01
800	12.1±0.2	1.96±0.01	1.68±0.06	24±1	1.96±0.01	1.76±0.01
1000	17.5±0.3	1.82±0.01	2.63±0.00	28±2	1.96±0.00	1.73±0.01

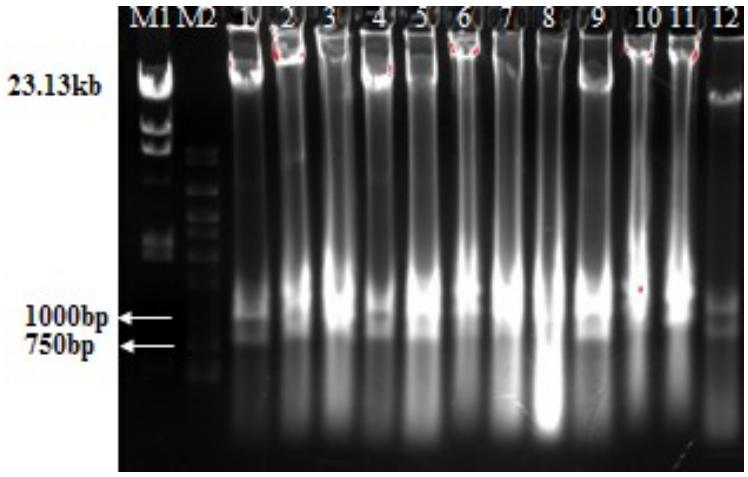

Figure S1 Simultaneous extraction of DNA and RNA from *A.f* by using four different pH PIPES buffer. Lane M1: Hind III-cut bacteriophage lambda molecular size marker (200 ng); Lane M2: 1 kb marker; Lane 1,5,9: nucleic acid extracted by pH 6.0 PIPES buffer; Lane 2,6,10: nucleic acid extracted by pH 6.5 PIPES buffer; Lane 3,7,11: nucleic acid extracted by pH 7.0 PIPES buffer; Lane 4,8,12: nucleic acid extracted by pH 7.5 PIPES buffer.

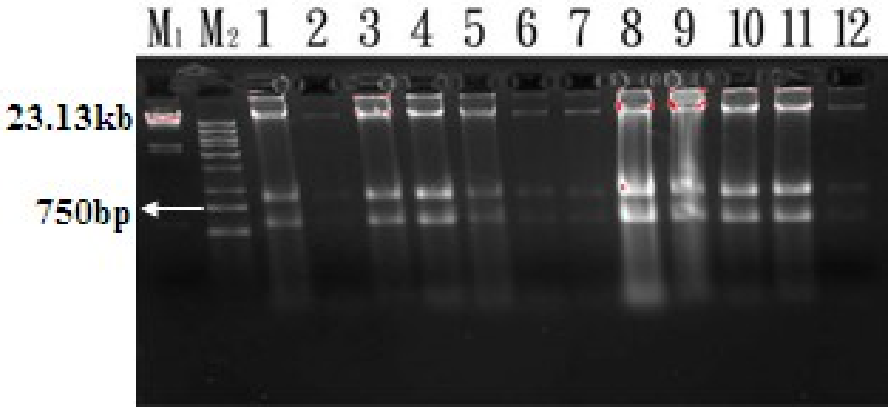

Figure S2 Simultaneous extraction of DNA and RNA from *A.f* by using different amount of proteinase K. Lane M1: Hind III-cut bacteriophage lambda molecular size marker (200 ng); Lane M2: 1 kb marker; Lane 1,5,9: nucleic acid extracted without adding proteinase K; Lane 2,6,10: nucleic acid extracted by adding 0.61mg proteinase K; Lane 3,7,11: nucleic acid extracted by adding 3.05mg proteinase K; Lane 4,8,12: nucleic acid extracted by adding 6.10 mg proteinase K.

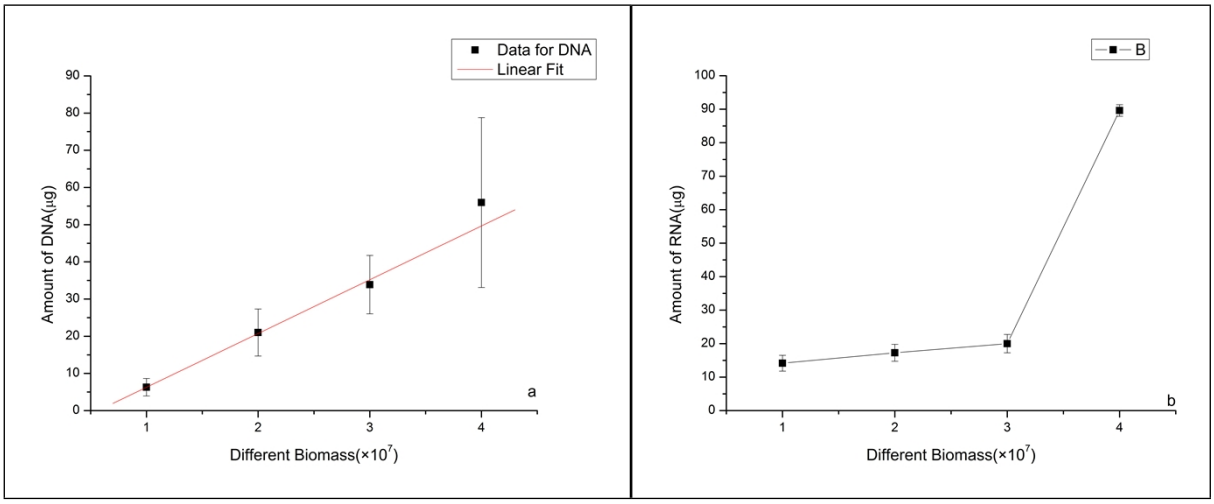

Figure S3 Linear relationship between recovered nucleic acid amount and biomass. (a) Linear relationship between DNA amount and biomass, Y=(0.14±0.03)X－8.18(±4.77), (R=0.997, *p*=0.0074); (b) Linear analysis for RNA amount and biomass.

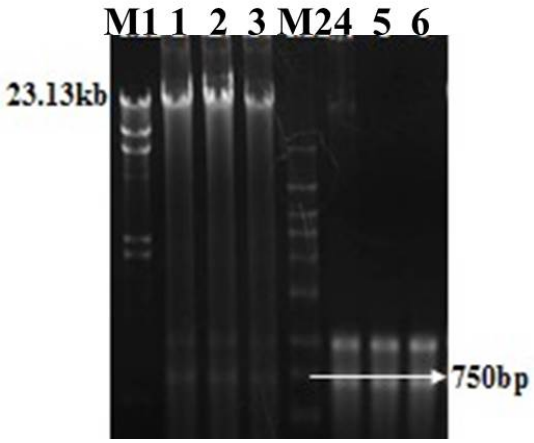

Figure S4 Nucleic acid precipitated at different temperature by saturated LiCl solution. Lane M1: Hind III-cut bacteriophage lambda molecular size marker (200 ng); Lane M2: 1 kb marker; Line 1-3: gDNA precipitated at 4 °C, -20 °C and -80 °C by 0.6 V isopropanol; Line 4-5: Total RNA precipitated at 4 °C, -20 °C and -80 °C by saturated LiCl solution.

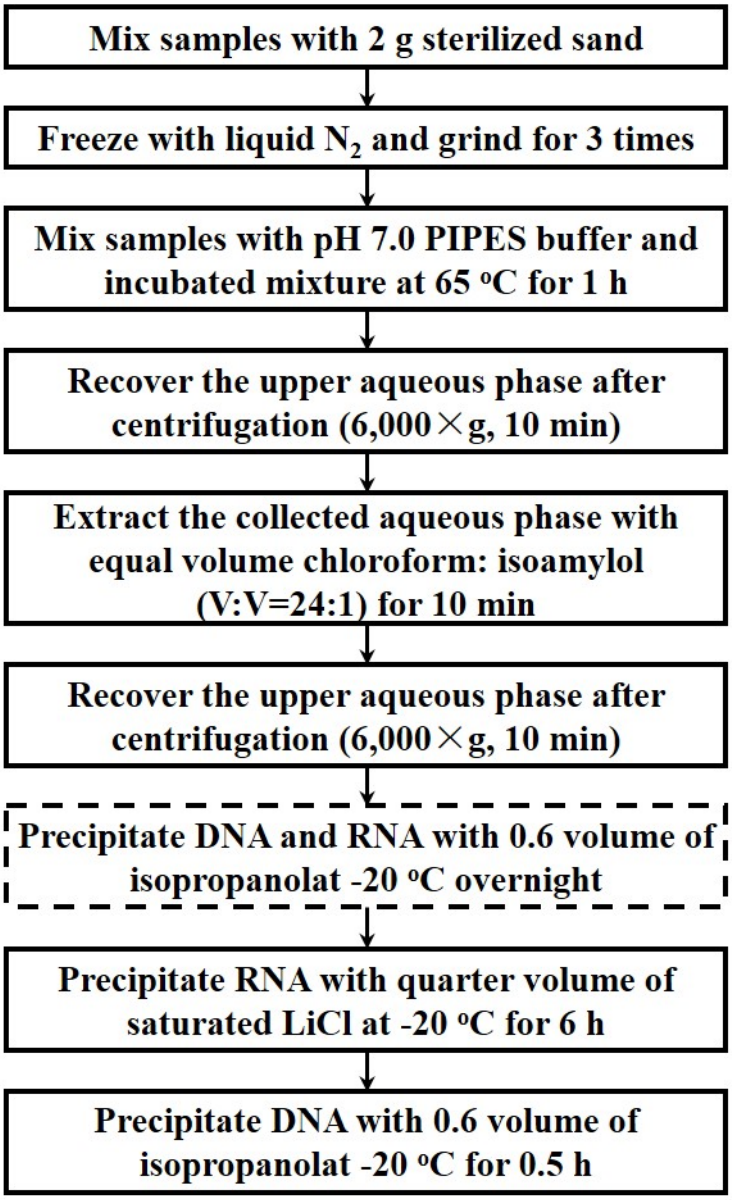

Figure S5 Flow chart of the optimized protocol for the simultaneous recovery of DNA and RNA. Note: Dotted border step could be ignored if the quantity of total nucleic acid was not concerned.