

## Supplementary material

**Table S1.** The standard methods and main instruments used for water quality testing.

Water quality parameter	Testing methods	Main instruments
TSS	GB 11901-1989 Gravimetric method	Auy-220 Air blast drying box
COD <sub>Cr</sub>	HJ 828-2017 Potassium dichromate Method	DR6000 UV / visible spectrophotometer
TN	HJ 636-2012 Alkaline potassium persulfate digestion UV spectrophotometric method	DR6000 UV / visible spectrophotometer
NH <sub>3</sub> -N	HJ 535-2009 Nessler 's reagent spectrophotometry method	DR6000 UV / visible spectrophotometer
NO <sub>3</sub> -N	HJ 84-2016 Ion chromatography method	ICS-1100 Ion chromatograph
TP	GB 11893-1989 Ammonium molybdate spectrophotometric method	DR6000 UV / visible spectrophotometer

**Table S2.** The standard methods and main instruments used for media chemical property testing.

Media chemical property parameter	Testing methods	Main instruments
pH	NYT1377-2007 Potentiometry method	PHS-3C Acidometer
Soil total nitrogen	LY/T 1228-2015 Kjeldahl determination method	K9860 Automatic azotometer
Organic matter	NY/T 1121.6-2006 Potassium dichromate volumetric method	/
Soil total phosphorus	LY/T 1232-2015 Alkali fusion	UV-1601 UV / visible spectrophotometer
Total salt content	LYT 1251-1999 Gravimetric method	DH-202 constant temperature drying oven
Cation exchange capacity	LY/T1243-1999 Ammonium acetate exchange method	/