Supplemental Materials

Table S1 The names and abbreviations of 19 natural progesterones

Name	Abbreviation
Progesterone	P
20α-Dihydroprogesterone	20α-DHP
20β-Hydroxyprogesterone	20β-OHP
5α-Dihydroprogesterone	5α-DHP
5β-Dihydroprogesterone	5β-DHP
3α-Hydroxy-5β-Tetrahydroprogesterone	3α,5β-THP
3β-Hydroxy-5β-Tetrahydroprogesterone	3β,5β-THP
3α-Hydroxy-5α-Tetrahydroprogesterone	3α,5α-THP
3β-Hydroxy-5α-Tetrahydroprogesterone	3β,5α-THP
2α-Hydroxyprogesterone	2α-OHP
6α-Hydroxyprogesterone	6α-OHP
6β-Hydroxyprogesterone	6β-OHP
11α-Hydroxyprogesterone	11α-OHP
11β-Hydroxyprogesterone	11β-OHP
17α-Hydroxyprogesterone	17α-OHP
21α-Hydroxyprogesterone	21α-OHP
17α, 20α-Dihydroxyprogesterone	17α,20α-DOHP
17α, 20β-Dihydroxyprogesterone	17α,20β-DOHP
5β-Dihydro-17-Hydroxyprogesterone	5β-DH-17-OHP

Table S2 The names and abbreviations of 42 synthetic progesterones

Species	Name	Abbreviation
Progesterone derivatives	6-Dehydroretroprogesterone	DGT
	1,6-Didehydroprogesterone	1,6-DDHP
	16α-Methylprogesterone	16α-MP
	16-Dehydroprogesterone	16-DHP
	Delta-6-Progesterone	DeltaP
	6-Ketoprogesterone	6-KP
	11-Ketoprogesterone	11-KP
	1-Dehydro, 11-Ketoprogesterone	1-DH,11-KP
	5α-Dihydro 11-Ketoprogesterone	5α-DH-11-KP
	5β-Dihydro-11-Ketoprogesterone	5β-DH-11-KP
	6β-Hydroxy-11-Ketoprogesterone	6β-OH-11-KP
	21-Hydroxyprogesterone Acetate	21-OHPA

	11α-Hydroxyprogesterone Acetate	11α-OHPA
	6β-Hydroxyprogesterone Acetate	6β-OHPA
	6β-Bromoprogesterone	6β-BP
	11α-Hydroxyprogesterone Tosylate	11α-OHPT
19-Nortestosterone derivatives	19-Norethindrone	NET
	6,7-Dehydro Norethindrone Acetate	6,7-DNEA
	19-Norethisterone Acetate	NEA
	19-Nortestosterone	NT
	Norvinisterone	NVT
	Ethisterone	ETH
	DH-Norgestrel	NG
	Gestodene	GES
	Etonogestrel	ENG
	17-Desacetyl Norgestimate	17-DNTE
	Norgestimate	NTE
	Mifepristone	MFP
17α-Hydroxyprogesterone derivatives	1,6-Didehydro,17-Hydroxyprogesterone	1,6-DDH-17-OHP
	Medroxyprogesterone	MP
	Medroxyprogesterone 17-Acetate	MPA
	6-epi-Medroxy Progesterone 17-Acetate	epi-MPA
	16,17-Epoxyprogesterone	16,17-EP
	17α-Hydroxyprogesterone Acetate	17α-OHPA
	17-Caproxyprogesterone	17-CP
	Cyproterone Acetate	CPA
	15β-Hydroxy Cyproterone Acetate	15β-OHCPA
	Melengestrol Acetate	MGA
	Delmadinone Acetate	DMA
	Chlormadinone Acetate	CMA
	Chlormadinol Acetate	CMLA
	Flugestone 17-Acetate	FGA

Table S3 The experiment parameters of each disinfection process for PFTE and SBTE

	Parameter	Cl_2	ClO_2	UV	O_3	UV/Cl_2
PFTE	Dosage (mg/L)	30, 40, 50	10, 20, 30	/	30, 50, 70, 90	10, 20, 30
	Reaction time	1 h	1 h	10, 30, 50, 70 s	30 min	1h (UV:30 s)
SBTE	Dosage (mg/L)	15, 20, 25	5, 10, 15	/	10, 20, 30, 40	4, 8, 12
	Reaction time	1 h	1 h	10, 20, 30, 40 s	15 min	1h (UV:15 s)

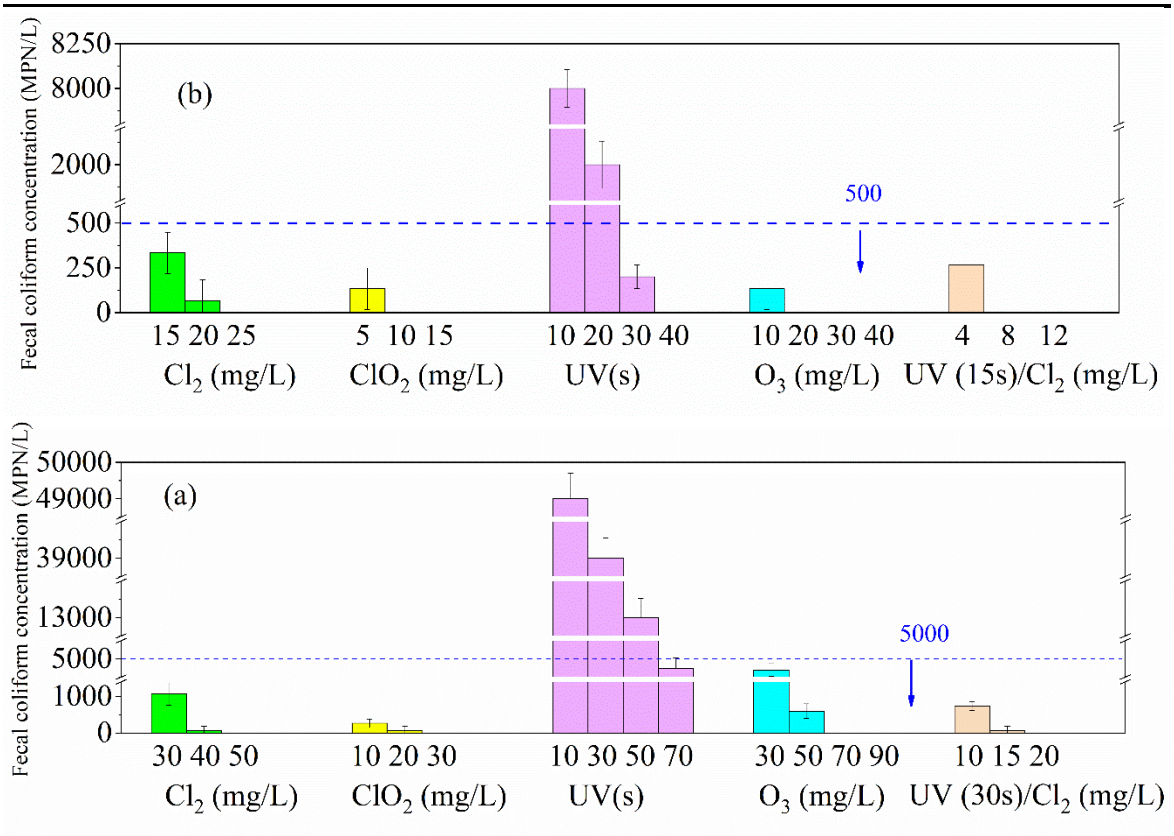

Figure S1 The concentration of fecal coliforms under different disinfection processes

(a) PFTE (b) SBTE

(Blue dashed line in Fig. a, b represented the standard of fecal coliforms concentration for PFTE (≤ 5000 MPN/L) and SBTE (≤ 500 MPN/L))

Text S1

When the fecal coliforms of PFTE were less than 5000 MPN/L, the minimum dosages of disinfectant were Cl_2 30 mg/L (1 h), ClO_2 10 mg/L (1h), UV (70s), O_3 30 mg/L (30 min) and UV (30 s) / Cl_2 (10 mg/L) (1h). When the fecal coliforms of SBTE were less than 500 MPN/L, the minimum dosages of disinfectant were Cl_2 10 mg/L (1 h), ClO_2 5 mg/L (1 h), UV 30 s, O_3 10 mg/L (15 min) and UV (15 s) / Cl_2 4 mg/L (1 h).

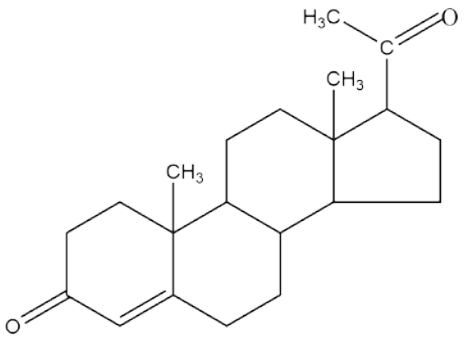

Figure S2 The chemical formula of P