

Supplemental material for

Effect of sulfidated nanoscale zero-valent iron activated periodate on bacterial inactivation and conjugative genes transfer

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Table S1 The sequence information of functional genes primers

Gene name	Primer	Standard sequence
<i>flgC</i>	<i>flgC</i> -F	GGCCAGTAATCTGGCGAATGCTGAT
	<i>flgC</i> -R	ACCGAGCGTAAGGGTTTTTCAGCATC
<i>ompA</i>	<i>ompA</i> -F	TGAGCCTGGGTGTTTTCTTA
	<i>ompA</i> -R	CAGAGCAGCCTGACCTTCC
<i>ompC</i>	<i>ompC</i> -F	AAGTAGTAGGTAGCACCAACATCA
	<i>ompC</i> -R	GGGCGAACAAGCACAGAA
<i>ompF</i>	<i>ompF</i> -F	CGTACTTCAGACCAGTAGCC
	<i>ompF</i> -R	GAACTTCGCTGTTTCAGTACC
<i>traG</i>	<i>traG</i> -F	TAAGCCTGTTTCATCGTGACGCAG
	<i>traG</i> -R	GACTCTTGCAGGATTTTCGAGCTTG
<i>korA</i>	<i>korA</i> -F	TCGGGCAAGTTCTTGTCC
	<i>korA</i> -R	GCAGCAGACCATCGAGATA
<i>korB</i>	<i>korB</i> -F	CTGGTCGGCTTCGTTGTA
	<i>korB</i> -R	TGAAGTCACCCATTTTCGGT
<i>trbA</i>	<i>trbA</i> -F	TGGAAACTCCCCTACCTCTT
	<i>trbA</i> -R	CCCACTGATGCGTTCGTAT
<i>traF</i>	<i>traF</i> -F	GGCAACCTCGTCGCCTTTA
	<i>traF</i> -R	GCAAGTCGGCGTGTTCG
<i>traJ</i>	<i>traJ</i> -F	GCCCGTGATTTTGTAGCCC
	<i>traJ</i> -R	TGAAACCAAGCCAACCAGGAA
<i>rpoS</i>	<i>rpoS</i> -F	TTTTACCACCAGACGCAAGT
	<i>rpoS</i> -R	GGAAGTGTATCGCAGGGAG
16S rRNA	16S-F	CCTACGGGAGGCAGCAG
	16S-R	CCTACGGGAGGCAGCAG

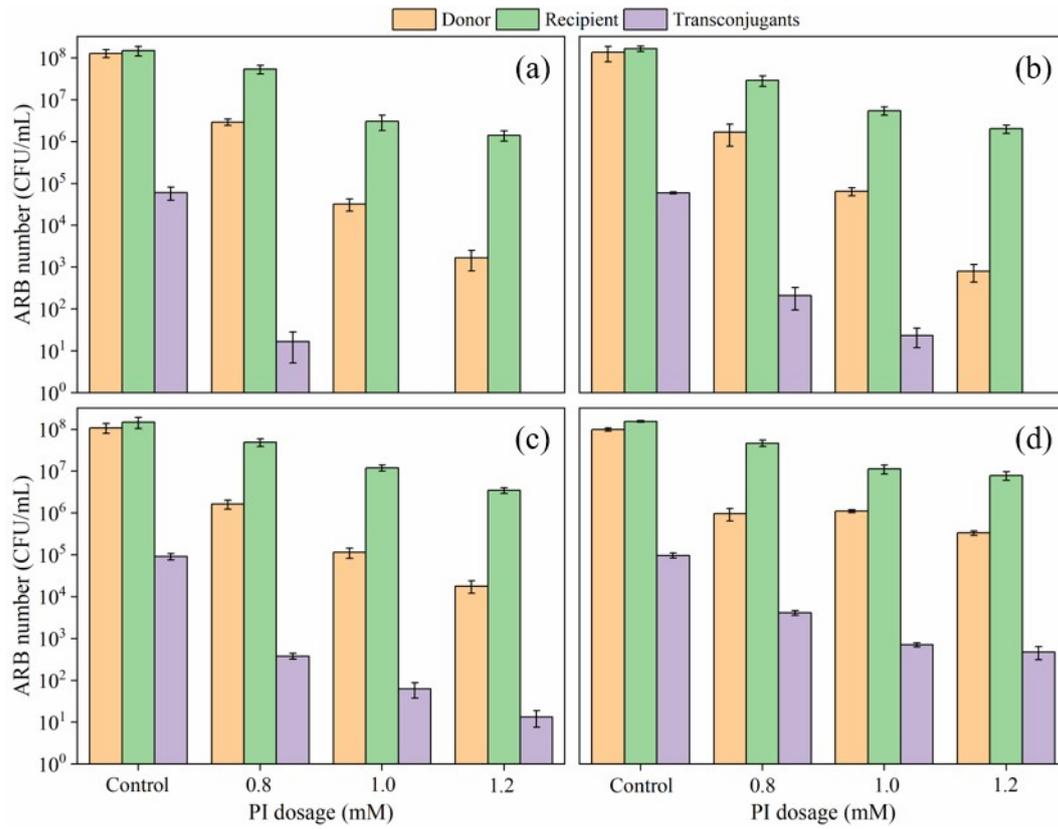


Fig. S1. The variation of the number of donor, recipient, and transconjugants as the mating time under different PI dosage (a) 3 h, (b) 6 h, (c) 12 h, and (d) 24 h. (Experimental conditions: [S-nZVI] = 50 mg/L, [*E. coli* HB101] = 10⁸ CFU/mL, [*E. coli* NK5449] = 10⁸ CFU/mL, pH₀ = 6.8, and the experiments were replicated three times with SD as the error bar).

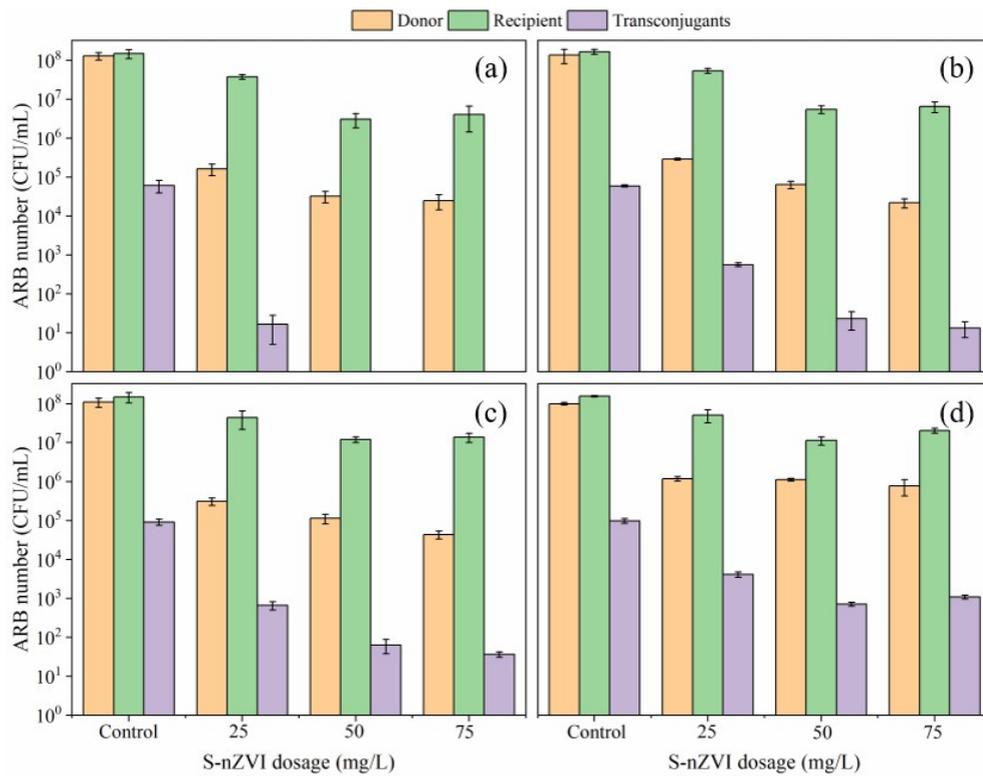


Fig. S2. The variation of the number of donor, recipient, and transconjugants as the mating time under different S-nZVI dosage (a) 3 h, (b) 6 h, (c) 12 h, and (d) 24 h. (Experimental conditions: [PI] = 1.0 mM, [*E. coli* HB101] = 10⁸ CFU/mL, [*E. coli* NK5449] = 10⁸ CFU/mL, pH₀ = 6.8, and the experiments were replicated three times with SD as the error bar).

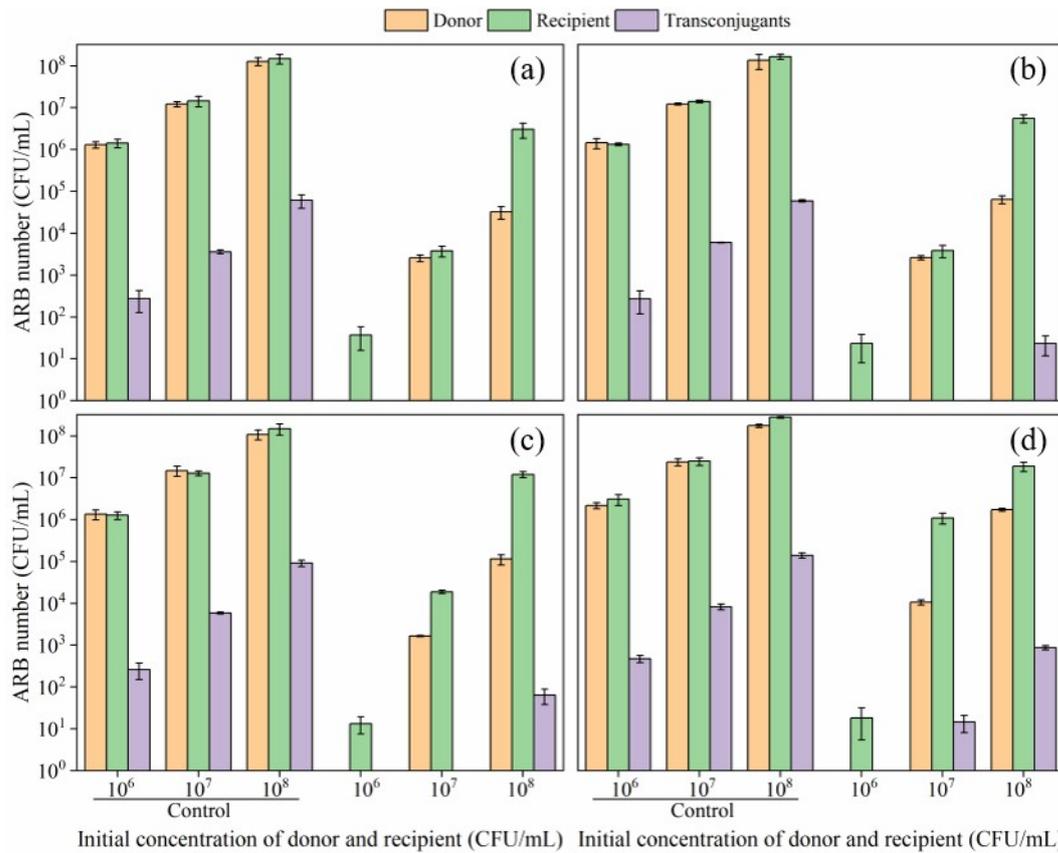


Fig. S3. The variation of the number of donor, recipient, and transconjugants as the mating time under different initial donor and recipient concentration (a) 3 h, (b) 6 h, (c) 12 h, and (d) 24 h. (Experimental conditions: [PI] = 1.0 mM, [S-nZVI] = 50 mg/L, pH₀ = 6.8, and the experiments were replicated three times with SD as the error bar).

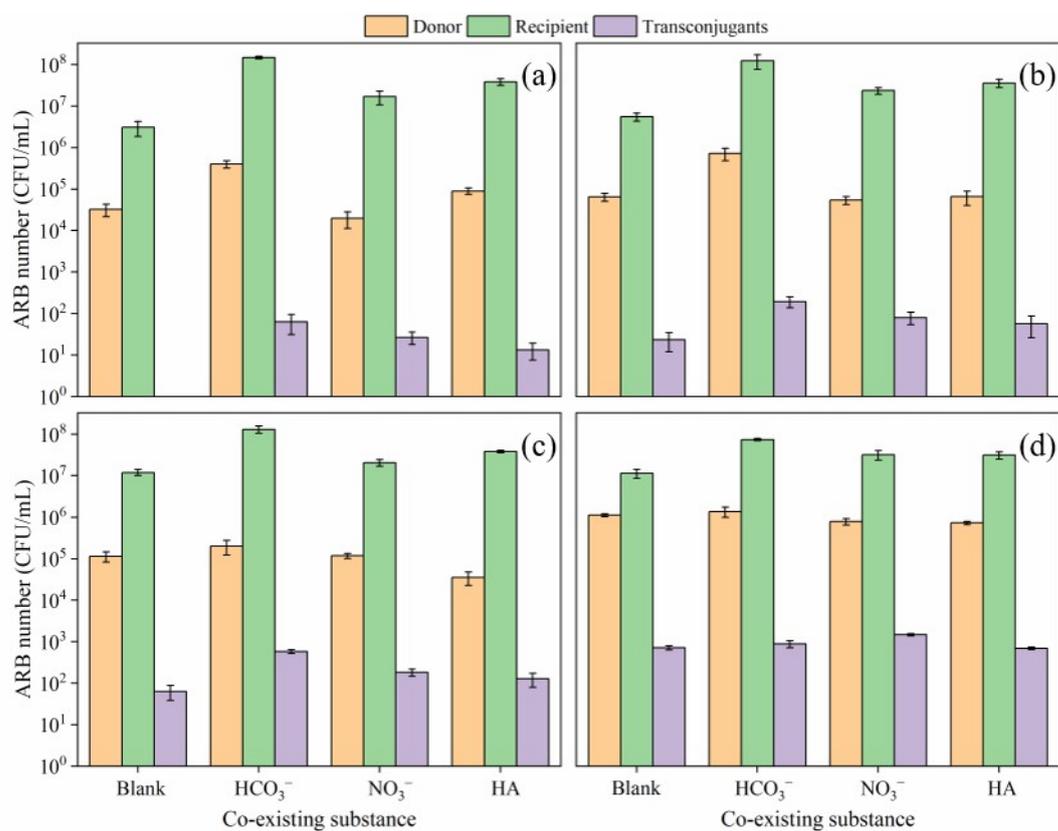


Fig. S4. The variation of the number of donor, recipient, and transconjugants as the mating time in the presence of different co-existing substances (a) 3 h, (b) 6 h, (c) 12 h, and (d) 24 h. (Experimental conditions: [PI] = 1.0 mM, [S-nZVI] = 50 mg/L, [*E. coli* HB101] = 10⁸ CFU/mL, [*E. coli* NK5449] = 10⁸ CFU/mL, pH₀ = 6.8, and the experiments were replicated three times with SD as the error bar).