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Supplementary Materials

Antimicrobial and virucidal potential of morpholinium-based ionic liquids

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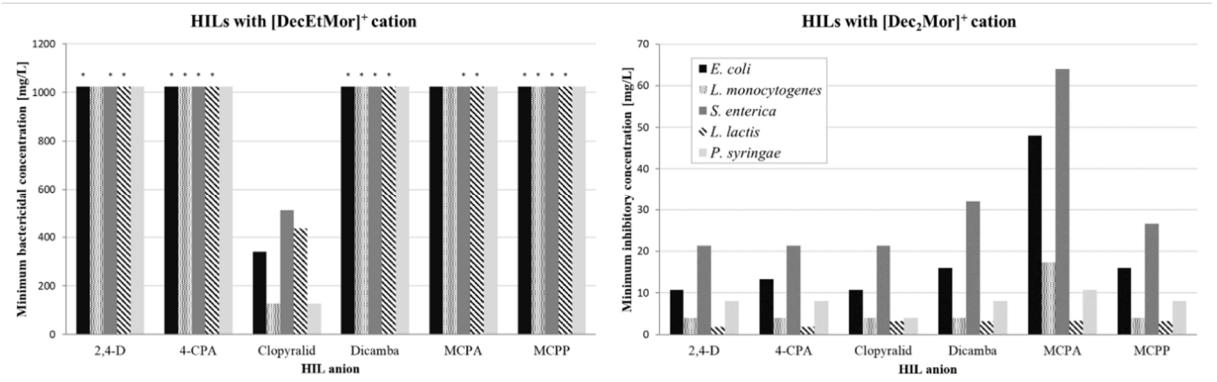
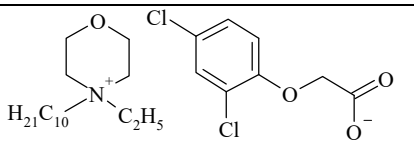
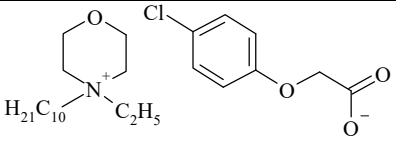
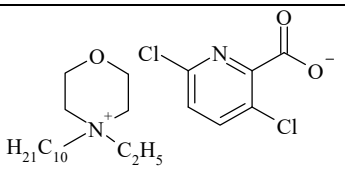
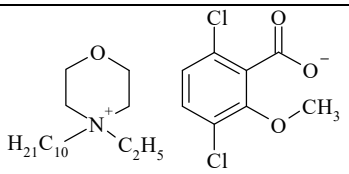
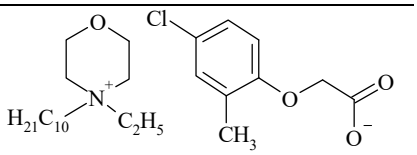
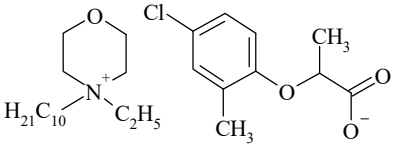
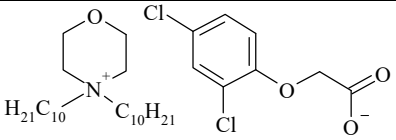
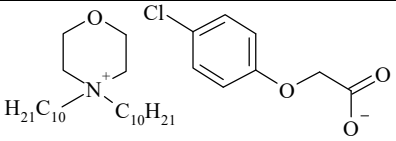
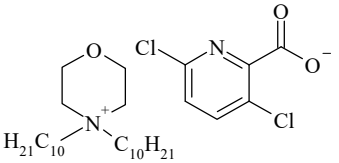
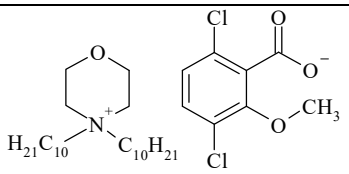
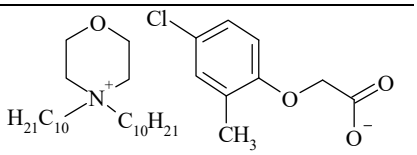


Figure S1. Mean bactericidal inhibitory concentration MBC [mg/L] of HILs with either [DecEtMor]$^+$ cation (**A**) or [Dec2Mor]$^+$ cation (**B**) for bacterial hosts: *E. coli*, *L. monocytogenes*, *S. enterica*, *L. lactis*, *P. syringae*; * No bactericidal effect observed at 1024 mg/L concentration. Note the ordinate scale differences between the two panels.

Table S1. List of morpholinium herbicidal ionic liquids examined in the study.

Abbreviation	Acronym	Name	Chemical structure
IL-1	[DecEtMor] [2,4-D]	4-decyl-4-ethylmorpholinium 2,4-dichlorophenoxyacetate	
IL-2	[DecEtMor] [4-CPA]	4-decyl-4-ethylmorpholinium 4-chlorophenoxyacetate	
IL-3	[DecEtMor] [Clopyralid]	4-decyl-4-ethylmorpholinium 3,6-dichloro-2-pyridinecarboxylate	
IL-4	[DecEtMor] [Dicamba]	4-decyl-4-ethylmorpholinium 3,6-dichloro-2-methoxybenzoate	
IL-5	[DecEtMor] [MCPA]	4-decyl-4-ethylmorpholinium 4-chloro-2-methylphenoxyacetate	
IL-6	[DecEtMor] [MCPP]	4-decyl-4-ethylmorpholinium (±)-2-(4-chloro-2-methylphenoxy)propionate	
IL-7	[Dec$_2$Mor] [2,4-D]	4,4-didecylmorpholinium 2,4-dichlorophenoxyacetate	
IL-8	[Dec$_2$Mor] [4-CPA]	4,4-didecylmorpholinium 4-chlorophenoxyacetate	
IL-9	[Dec$_2$Mor] [Clopyralid]	4,4-didecylmorpholinium 3,6-dichloro-2-pyridinecarboxylate	
IL-10	[Dec$_2$Mor] [Dicamba]	4,4-didecylmorpholinium 3,6-dichloro-2-methoxybenzoate	
IL-11	[Dec$_2$Mor] [MCPA]	4,4-didecylmorpholinium 4-chloro-2-methylphenoxyacetate	

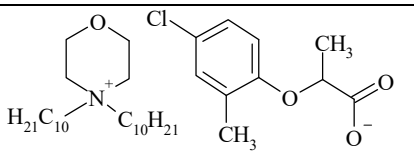
IL-12	[Dec2Mor][MCPP]	4,4-didecylmorpholinium (±)-2-(4-chloro-2-methylphenoxy)propionate	

Table S2. Enzyme inhibition of HILs shown as MIC and EC_{50} [mg/L] (including upper and lower limits).

Ionic Liquids	MIC [mg/L]	EC_{50} [mg/L]
[Dec2Mor][2,4-D]	**80** (80; 80)	**21** (25,6; 16,4)
[Dec2Mor][4-CPA]	**80** (80; 80)	**10** (12,7; 6,9)
[Dec2Mor][Clopyralid]	**80** (80; 80)	**17** (30,6; 9,7)
[Dec2Mor][Dicamba]	**80** (80; 80)	**21** (37,2; 9,4)
[Dec2Mor][MCPA]	**80** (80; 80)	**24** (53,2; 9,6)
[Dec2Mor][MCPP]	**80** (80; 80)	**18** (24,9;12,2)
[DecEtMor][2,4-D]	**10.000** (10.000; 10.000)	**1034** (1347; 691)
[DecEtMor][4-CPA]	**10.000** (10.000; 10.000)	**1181** (1237; 1078)
[DecEtMor][Clopyralid]	**2000** (2000; 2000)	**751** (929; 618)
[DecEtMor][Dicamba]	**10.000** (10.000; 10.000)	**1947** (3804; 939)
[DecEtMor][MCPA]	**10.000** (10.000; 10.000)	**1120** (1162; 1052)
[DecEtMor][MCPP]	**10.000** (10.000; 10.000)	**1156** (1192; 1094)