Supporting information for:

Langevin behavior of the dielectric decrement in ionic liquid water mixtures

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1 Ionic liquid force fields

In the following, we give the complete file of topology and parameters readible by the program package CHARMM [1].

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 READ RTF CARD
*============================================================
*.   T O P O L O G Y   O F   I O N I C   L I Q U I D S
*.
*. Parametrization: GAAMP, scaling of epsilon_LJ
*============================================================
*
   99   1
MASS     1 H1       1.008000
MASS     2 H4       1.008000
MASS     3 H5       1.008000
MASS     4 HC       1.008000
MASS     6 C3      12.010000
MASS     7 CC      12.010000
MASS     8 CD      12.010000
MASS     9 CG      12.010000
MASS    10 O       16.000000
MASS    13 N1      14.010000
MASS    14 NA      14.010000
MASS    15 NE      14.010000
MASS    16 F       19.000000
MASS    18 S6      32.060000
MASS    60 LP       0.000000   ! general lone pair
MASS    61 DRUD     0.000000   ! drude particle

AUTOGENERATE DRUDE  ! use of DRUDE
!====================================================================
!EMIM
!====================================================================
RESI EMIM  1.000
GROUP
ATOM C      C3        0.045  ALPHA -2.025  THOLE 1.135
ATOM H      H1        0.053
ATOM H1     H1        0.053
ATOM H2     H1        0.053
ATOM N      NA        0.102  ALPHA -0.901  THOLE 1.138
ATOM C1     CC        0.003  ALPHA -1.533  THOLE 1.409
ATOM N1     NA        0.102  ALPHA -0.901  THOLE 1.138
ATOM C2     CC       -0.076  ALPHA -1.563  THOLE 1.324
ATOM C3     CD       -0.076  ALPHA -1.563  THOLE 1.324
ATOM H3     H5        0.183
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ATOM H4     H4       0.168
ATOM H5     H4       0.168
ATOM C4     C3      -0.005  ALPHA -1.675  THOLE 1.109
ATOM H6     H1       0.075
ATOM H7     H1       0.075
ATOM C5     C3       0.008  ALPHA -2.049  THOLE 1.125
ATOM H8     HC       0.023
ATOM H9     HC       0.023
ATOM H10    HC       0.023

BOND C      H                   ! DIST      1.0796
BOND C      H1                  ! DIST      1.0785
BOND C      H2                  ! DIST      1.0794
BOND C      N1                  ! DIST      1.4658
BOND N      C1                  ! DIST      1.3138
BOND N      C3                  ! DIST      1.3781
BOND N      C4                  ! DIST      1.4777
BOND C1     N1                  ! DIST      1.3157
BOND C1     H3                  ! DIST      1.0692
BOND N1     C2                  ! DIST      1.3785
BOND C2     C3                  ! DIST      1.3416
BOND C2     H4                  ! DIST      1.0679
BOND C3     H5                  ! DIST      1.0688
BOND C4     H6                  ! DIST      1.0814
BOND C4     H7                  ! DIST      1.0798
BOND C4     C5                  ! DIST      1.5218
BOND C5     H8                  ! DIST      1.0835
BOND C5     H9                  ! DIST      1.0834
BOND C5     H10                 ! DIST      1.0837

ANGL C      N1    C1            ! ANGLE   126.4111
ANGL C      N1    C2            ! ANGLE   125.6300
ANGL H      C     H1            ! ANGLE   109.5510
ANGL H      C     H2            ! ANGLE   110.2559
ANGL H      C     N1            ! ANGLE   109.2611
ANGL H1     C     H2            ! ANGLE   109.5172
ANGL H1     C     N1            ! ANGLE   108.8792
ANGL H2     C     N1            ! ANGLE   109.3538
ANGL N      C1    N1            ! ANGLE   109.8941
ANGL N      C1    H3            ! ANGLE   125.1030
ANGL N      C3    C2            ! ANGLE   107.1959
ANGL N      C3    H5            ! ANGLE   122.1025
ANGL N      C4    H6            ! ANGLE   106.7043
ANGL N      C4    H7            ! ANGLE   106.9082
ANGL N      C4    C5            ! ANGLE   112.0836
ANGL C1     N     C3            ! ANGLE   107.9285
ANGL C1     N     C4            ! ANGLE   126.1921
ANGL C1     N1    C2            ! ANGLE   107.9577
ANGL N1     C1    H3            ! ANGLE   125.0025
ANGL N1     C2    C3            ! ANGLE   107.0236
ANGL N1     C2    H4            ! ANGLE   122.0406
ANGL C2     C3    H5            ! ANGLE   130.7003
ANGL C3     N     C4            ! ANGLE   125.8669
ANGL C3     C2    H4            ! ANGLE   130.9352
ANGL C4     C5    H8            ! ANGLE   111.2780
ANGL C4     C5    H9            ! ANGLE   111.5813
ANGL C4     C5    H10           ! ANGLE   109.0336
ANGL H6     C4    H7            ! ANGLE   107.7086
ANGL H6     C4    C5            ! ANGLE   111.3594
ANGL H7     C4    C5            ! ANGLE   111.7864
ANGL H8     C5    H9            ! ANGLE   108.5717
ANGL H8     C5    H10           ! ANGLE   108.3168
ANGL H9     C5    H10           ! ANGLE   107.9497

DIHE H      C     N1    C1      ! DIHE   -120.0991
DIHE H1     C     N1    C1      ! DIHE     -0.4861
DIHE H2     C     N1    C1      ! DIHE    119.1407
DIHE H      C     N1    C2      ! DIHE     60.3500
DIHE H1     C     N1    C2      ! DIHE    179.9630
DIHE H2     C     N1    C2      ! DIHE    -60.4102
DIHE C3     N     C1    N1      ! DIHE     -0.0723
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DIHE C4      N      C1     N1       ! DIHE   -178.8479
DIHE C3      N      C1     H3       ! DIHE   -179.8641
DIHE C4      N      C1     H3       ! DIHE      1.3603
DIHE C1      N      C3     C2       ! DIHE      0.1214
DIHE C4      N      C3     C2       ! DIHE    178.9021
DIHE C1      N      C3     H5       ! DIHE    179.7449
DIHE C4      N      C3     H5       ! DIHE     -1.4744
DIHE C1      N      C4     H6       ! DIHE    -17.3257
DIHE C3      N      C4     H6       ! DIHE    164.1119
DIHE C1      N      C4     H7       ! DIHE   -132.3592
DIHE C3      N      C4     H7       ! DIHE     49.0783
DIHE C1      N      C4     C5       ! DIHE    104.8236
DIHE C3      N      C4     C5       ! DIHE    -73.7389
DIHE N       C1     N1     C        ! DIHE   -179.6202
DIHE H3      C1     N1     C        ! DIHE      0.1719
DIHE N       C1     N1     C2       ! DIHE     -0.0039
DIHE H3      C1     N1     C2       ! DIHE    179.7882
DIHE C       N1     C2     C3       ! DIHE    179.7003
DIHE C1      N1     C2     C3       ! DIHE      0.0802
DIHE C       N1     C2     H4       ! DIHE     -0.0517
DIHE C1      N1     C2     H4       ! DIHE   -179.6718
DIHE N1      C2     C3     N        ! DIHE     -0.1217
DIHE H4      C2     C3     N        ! DIHE    179.6001
DIHE N1      C2     C3     H5       ! DIHE   -179.7009
DIHE H4      C2     C3     H5       ! DIHE      0.0208
DIHE N       C4     C5     H8       ! DIHE    -60.5075
DIHE H6      C4     C5     H8       ! DIHE     58.9472
DIHE H7      C4     C5     H8       ! DIHE    179.4809
DIHE N       C4     C5     H9       ! DIHE     60.9322
DIHE H6      C4     C5     H9       ! DIHE   -179.6130
DIHE H7      C4     C5     H9       ! DIHE    -59.0794
DIHE N       C4     C5     H10      ! DIHE   -179.9216
DIHE H6      C4     C5     H10      ! DIHE    -60.4668
DIHE H7      C4     C5     H10      ! DIHE     60.0669

IMPH C4      C1     N      C3
IMPH H3      N1     C1     N
IMPH C       C1     N1     C2
IMPH C3      H4     C2     N1
IMPH C2      H5     C3     N

!=====================================================================
!TRIF
!=====================================================================
RESI TRIF -1.000
GROUP
ATOM C       C3        0.366  ALPHA -1.227  THOLE 1.068
ATOM F       F        -0.190  ALPHA -0.028  THOLE 1.450
ATOM F1      F        -0.190  ALPHA -0.028  THOLE 1.450
ATOM F2      F        -0.190  ALPHA -0.028  THOLE 1.450
ATOM S       S6        0.998  ALPHA -2.658  THOLE 1.128
ATOM O       O        -0.353  ALPHA -0.271  THOLE 1.471
ATOM LPAO    LP       -0.145
ATOM LPBO    LP       -0.100
ATOM O1      O        -0.353  ALPHA -0.271  THOLE 1.471
ATOM LPAO1   LP       -0.145
ATOM LPBO1   LP       -0.100
ATOM O2      O        -0.353  ALPHA -0.271  THOLE 1.471
ATOM LPAO2   LP       -0.145
ATOM LPBO2   LP       -0.100

BOND C     F                    ! DIST      1.3239
BOND C     F1                   ! DIST      1.3237
BOND C     F2                   ! DIST      1.3237
BOND C     S                    ! DIST      1.8184
BOND S     O                    ! DIST      1.4431
BOND S     O1                   ! DIST      1.4425
BOND S     O2                   ! DIST      1.4425
BOND        O    LPAO          O    LPBO
BOND       O1   LPAO1         O1   LPBO1
BOND       O2   LPAO2         O2   LPBO2
```

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LONEPAIR relative LPAO   O      S      C       distance 0.35 angle 110.00 dihe   0.00
LONEPAIR relative LPBO   O      S      C       distance 0.35 angle 110.00 dihe 180.00
ANISOTROPY       O       S    LPAO    LPBO  A11  0.56750 A22  0.37401
LONEPAIR relative LPAO1  O1     S      C       distance 0.35 angle 110.00 dihe   0.00
LONEPAIR relative LPBO1  O1     S      C       distance 0.35 angle 110.00 dihe 180.00
ANISOTROPY      O1       S   LPAO1   LPBO1  A11  0.56750 A22  0.37401
LONEPAIR relative LPAO2  O2     S      C       distance 0.35 angle 110.00 dihe   0.00
LONEPAIR relative LPBO2  O2     S      C       distance 0.35 angle 110.00 dihe 180.00
ANISOTROPY      O2       S   LPAO2   LPBO2  A11  0.56750 A22  0.37401

ANGL C     S     O              ! ANGLE   102.6274
ANGL C     S     O1             ! ANGLE   102.6487
ANGL C     S     O2             ! ANGLE   102.6487
ANGL F     C     F1             ! ANGLE   107.1013
ANGL F     C     F2             ! ANGLE   107.1013
ANGL F     C     S              ! ANGLE   111.7239
ANGL F1    C     F2             ! ANGLE   107.1326
ANGL F1    C     S              ! ANGLE   111.7459
ANGL F2    C     S              ! ANGLE   111.7459
ANGL O     S     O1             ! ANGLE   115.3458
ANGL O     S     O2             ! ANGLE   115.3458
ANGL O1    S     O2             ! ANGLE   115.3600

DIHE F     C     S     O        ! DIHE   -180.0000
DIHE F1    C     S     O        ! DIHE    -60.0184
DIHE F2    C     S     O        ! DIHE     60.0184
DIHE F     C     S     O1       ! DIHE    -60.0079
DIHE F1    C     S     O1       ! DIHE     59.9737
DIHE F2    C     S     O1       ! DIHE   -179.9895
DIHE F     C     S     O2       ! DIHE     60.0079
DIHE F1    C     S     O2       ! DIHE    179.9895
DIHE F2    C     S     O2       ! DIHE    -59.9737

!=====================================================================
!DCA
!=====================================================================
RESI DCA  -1.000
GROUP
ATOM N      N1      -0.611  ALPHA -0.405  THOLE 1.211
ATOM C      CG       0.419  ALPHA -1.042  THOLE 1.298
ATOM N1     NE      -0.616  ALPHA -0.983  THOLE 1.337
ATOM C1     CG       0.419  ALPHA -1.042  THOLE 1.298
ATOM N2     N1      -0.611  ALPHA -0.405  THOLE 1.211

BOND N     C                 ! DIST      1.1508
BOND C     N1                ! DIST      1.3125
BOND N1    C1                ! DIST      1.3125
BOND C1    N2                ! DIST      1.1508

ANGL N     C     N1          ! ANGLE   175.1727
ANGL C     N1    C1          ! ANGLE   118.5067
ANGL N1    C1    N2          ! ANGLE   175.1727

DIHE N     C     N1    C1    ! DIHE   -180.0000
DIHE C     N1    C1    N2    ! DIHE   -179.9999

END

READ PARA CARD
*=============================================================
*.   P A R A M E T E R S   O F   I O N I C   L I Q U I D S
*.
*. Parametrization: GAAMP, scaling of epsilon_LJ
*=============================================================
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!=====================================================================
ATOMS
!=====================================================================
MASS     1 H1      1.008000
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MASS     2 H4       1.008000
MASS     3 H5       1.008000
MASS     4 HC       1.008000
MASS     6 C3      12.010000
MASS     7 CC      12.010000
MASS     8 CD      12.010000
MASS     9 CG      12.010000
MASS    10 O       16.000000
MASS    13 N1      14.010000
MASS    14 NA      14.010000
MASS    15 NE      14.010000
MASS    16 F       19.000000
MASS    18 S6      32.060000
MASS    60 LP       0.000000   ! general lone pair
MASS    61 DRUD     0.000000   ! drude particle

!=====================================================================
BONDS
!=====================================================================
!
! EMIM
!
C3 H1   335.90  1.093
C3 NA   334.70  1.456
CC NA   438.80  1.371
CD NA   438.80  1.371
CC H5   356.00  1.079
CC CD   504.00  1.371
CC H4   350.10  1.083
CD H4   350.10  1.083
C3 C3   303.10  1.535
C3 HC   337.30  1.092
!
! TRIF
!
C3 F   363.80   1.344
C3 S6  254.00   1.774
O  S6  541.10   1.436
O  LP    0.00   0.000
!
! DCA
!
CG NE  509.50   1.326
CG N1  994.70   1.143
!
! Drudes
!
C3  DRUD   500.00  0.000
CC  DRUD   500.00  0.000
CD  DRUD   500.00  0.000
CG  DRUD   500.00  0.000
O   DRUD   500.00  0.000
NA  DRUD   500.00  0.000
N1  DRUD   500.00  0.000
NE  DRUD   500.00  0.000
F   DRUD   500.00  0.000
S6  DRUD   500.00  0.000

!=====================================================================
ANGLES
!=====================================================================
!
!EMIM
!
C3 NA CC   62.560     125.090
H1 C3 H1   39.180     109.550
H1 C3 NA   49.900     109.450
NA CC NA   73.650     109.330   ! SAME AS NA C2 NA
NA CC H5   49.760     122.100
NA CD CC   72.910     109.420
NA CD H4   50.220     119.660
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NA C3 C3   65.730      112.810
CC NA CD   63.880      128.010
CC NA CC   68.940      109.900
NA CC CD   72.910      109.420
NA CC H4   50.220      119.660
CC CD H4   47.190      129.110
CD NA C3   62.560      125.090
CD CC H4   47.190      129.110
C3 C3 HC   46.370      110.050
H1 C3 C3   46.360      110.070
HC C3 HC   39.430      108.350
!
! TRIF
!
C3 S6 O    41.660      108.320
F  C3 F    71.260      107.160
F  C3 S6   81.220      109.670
O  S6 O    46.660      119.730
!
! DCA
!
CG NE CG   66.000      140.000
NE CG N1   65.040      174.070

!=====================================================================
DIHEDRALS
!=====================================================================
!
!EMIM
!
X  C3 NA X       0.000          2       0.0
X  CC NA X       1.700          2     180.0
X  CD NA X       1.700          2     180.0
X  CC CD X       4.000          2     180.0
X  C3 C3 X       0.156          3       0.0
CC NA C3 C3      0.027          1       0.0
CC NA C3 C3      0.232          2     180.0
CC NA C3 C3      0.314          3     180.0
CC NA C3 C3      0.033          4     180.0
CC NA C  C3      0.0255         6       0.0
!
! TRIF
!
F  C3 S6 O       0.144          3       0.0
!
! DCA
!
X    CG   NE   X       0.000          2     180.0
CG   NE   CG   N1      0.000          2     180.0      ! SAME AS X  C1 NE X

!=====================================================================
IMPROPERS
!=====================================================================
!
!EMIM
!
C3 CC NA CD      1.100          2     180.0       ! USING DEFAULT VALUE
H5 NA CC NA      1.100          2     180.0       ! USING DEFAULT VALUE
C3 CC NA CC      1.100          2     180.0       ! USING DEFAULT VALUE
CD H4 CC NA      1.100          2     180.0       ! USING DEFAULT VALUE
CC H4 CD NA      1.100          2     180.0       ! USING DEFAULT VALUE

!=====================================================================
NONBONDED
!=====================================================================
!                EMIN      RMIN/2              EMIN/2     RMIN  (FOR 1-4'S)
!             (KCAL/MOL)    (A)
!=====================================================================
!
!EMIM
!
```

```
C3       0.00    -0.0741     1.9080       0.00    -0.0371     1.9080
NA       0.00    -0.1427     1.8240       0.00    -0.0713     1.8240
CC       0.00    -0.0602     1.9080       0.00    -0.0301     1.9080
CD       0.00    -0.0600     1.9080       0.00    -0.0300     1.9080
H1       0.00    -0.0157     1.3870       0.00    -0.00775    1.3870
H5       0.00    -0.0150     1.3590       0.00    -0.0075     1.3590
H4       0.00    -0.0150     1.4090       0.00    -0.0075     1.4090
HC       0.00    -0.0157     1.4870       0.00    -0.00775    1.4870
!
! TRIF
!
S6       0.00    -0.1000     2.0000       0.00    -0.0500     2.00
F        0.00    -0.0607     1.7500       0.00    -0.0304     1.7500
O        0.00    -0.2005     1.6612       0.00    -0.1003     1.6612
!
! dca
!
N1       0.00    -0.1584     1.8240       0.00    -0.0792     1.8240
NE       0.00    -0.1399     1.8240       0.00    -0.0699     1.8240
CG       0.00    -0.1703     1.9080       0.00    -0.0851     1.9080
!
! Wildcard for Drudes and dummy atom
!
DRUD      0.0    -0.0000     0.0000       0.00    -0.00       0.00
LP        0.0    -0.0000     0.0000       0.00    -0.00       0.00

END
RETURN
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2 Fit parameters

The autocorrellation functions of the aqueous and ionic contributions to the collective rotational dipole moment are fitted bi- or triexponentially for each contribution x with $x =$\{water, cation, anion\},

$$\langle \vec{M}_D(0) \cdot \vec{M}_D^x(t) \rangle \simeq \sum_{k=1}^{3} a_k e^{-t/\tau_k}. \tag{1}$$

The autocorrelation function $\langle \vec{J}(0) \cdot \vec{J}(t)$ of the electric current $\vec{J}(t)$ can be modelled by damped oscillators,

$$\langle \vec{J}(0) \cdot \vec{J}(t) \rangle \simeq \sum_{k=1}^{4} a_k e^{-t/\tau_k} \cos(\omega_k t + \delta_k) \tag{2}$$

whree we restrict the third and fourth component to an exponential, *i.e.* $\omega_3 = \omega_4 = 0$ and $\delta_3 = \delta_4 = 0$. The components $k = 3$ and $k = 4$ are responsible for the slow relaxation components and almost invisible in $\langle \vec{J}(0) \cdot \vec{J}(t) \rangle$. Thus, they are fitted instead via the mean-squared displacement of $\mathbf{M}_\mathrm{J}(t)$ via

$$\langle \Delta \mathbf{M}_\mathrm{J}^2(t) \rangle \simeq mt + \sum_{k=3}^{4} a_k^* \cdot (1 - e^{-t/\tau_k}) \tag{3}$$

with

$$a_k^* = \frac{a_k}{2\tau_k^2}. \tag{4}$$

A detailed description of the methods can be found in Ref. [2, 3, 4]. The respective parameters are given in the Table S1.

		$\langle \vec{M}_D(0) \cdot \vec{M}_D^W(t) \rangle$						$\langle \vec{M}_D(0) \cdot \vec{M}_D^C(t) \rangle$						$\langle \vec{M}_D(0) \cdot \vec{M}_D^A(t) \rangle$					
	c_{IL}	a_1	τ_1	a_2	τ_2	a_3	τ_3	a_1	τ_1	a_2	τ_2	a_3	τ_3	a_1	τ_1	a_2	τ_2	a_3	τ_3
C_2mim OTf	0.25	296	0.13	9495	10.0			3.75	0.28	17.3	33.1			3.99	0.69	138	24.8		
	0.50	445	0.58	8677	11.5			6.69	0.36	24.5	15.4			10.5	0.68	277	28.1		
	1.00	317	0.23	2490	7.2	4887	20.8	12.6	0.28	20.5	10.8	34.4	70.4	27.0	0.66	532	34.8		
	2.01	212	0.22	5211	25.4	245	357	20.7	0.33	91.8	35.3	23.5	92.1	62.5	0.91	806	41.3	115	253
	3.02	206	0.5	2505	46.6	668	160	21.5	0.23	139	63.6			88.2	0.83	635	57.7	407	173
	4.01	82	0.32	151	13.7	1243	211	27.2	0.33	206	137			91.7	0.43	144	14.8	811	246
	5.24							37.4	0.64	49.5	20.7	239	636	175	0.97	370	29.3	303	359
C_2mim $N(CN)_2$	0.25	342	0.26	9856	10.1			3.81	0.31	8.45	16.2			5.13	0.62	1.18	10.3		
	0.50	361	0.27	8950	10.8			6.23	0.22	20.2	13.8	12.6	69.0	7.91	0.40	5.65	6.33		
	0.99	489	0.48	7878	13.5			9.84	0.17	21.3	5.89	29.9	38.0	11.5	0.26	13.9	4.15		
	1.95	443	0.64	5629	19.0			14.3	0.13	13.1	1.68	83.8	39.5	18.5	0.21	30.0	4.37	12.1	52.4
	2.90	286	0.51	3884	27.0			20.4	0.16	22.2	4.6	104	75.1	24.1	0.19	41.2	6.33	17.1	52.3
	3.83	156	0.26	182	5.7	2072	44.4	19.2	0.11	22.4	2.7	118	68.4	27.8	0.17	29.9	4.99	48.3	48.8
	4.91	72	0.26	119	9.8	652	72.1	23.6	0.22	23.4	9.02	137	190	26.3	0.14	26.3	6.10	49.4	88.9
	6.11							26.9	0.44	37.4	21.4	126	491	29.4	0.18	10.8	2.90	7.66	76.8

		$\langle \Delta \mathbf{M}_\mathrm{J}^2(t) \rangle$					$\langle \vec{J}(0) \cdot \vec{J}(t) \rangle$							
	c_{IL}	m	a_1^*	τ_1	a_2^*	τ_2	a_1	τ_1	ω_1	δ_1	a_2	τ_2	ω_2	δ_2
C_2mim OTf	0.25	45.9	40.6	0.53	289	48.0	783	0.071	17.6	-1.04	1783	0.28	3.26	0.68
	0.50	76.9	79.5	0.48	643	54.4	1257	0.051	20.4	-1.59	6074	0.22	2.52	0.95
	1.00	110	169	0.46	882	43.4	4120	0.049	15.0	-1.52	20197	0.22	1.46	1.23
	2.01	118	333	0.41	1771	52.7	5269	0.069	21.0	-1.30	18461	0.24	3.74	0.80
	3.02	78.5	441	0.39	907	13.6	17939	0.068	15.3	-1.00	17389	0.27	4.23	0.85
	4.01	34.7	502	0.36	897	12.1	17901	0.075	19.5	-1.33	52718	0.17	3.57	1.08
	5.24	14.6	452	0.36	761	12.3	28265	0.116	20.2	-0.89	51469	0.13	4.13	1.23
C_2mim $N(CN)_2$	0.25	53.2	40.6	0.47	456	79.8	1129	0.043	30.8	-1.15	3797	0.20	2.92	0.94
	0.50	84.9	83.6	0.46	1060	68.4	3143	0.041	25.4	-1.10	5478	0.21	3.99	0.76
	0.99	143	141	0.38	863	11.7	2858	0.044	37.9	-1.54	21399	0.17	2.87	1.04
	1.95	179	319	0.40	1740	30.2	23022	0.048	19.8	-0.94	13230	0.26	4.01	0.90
	2.90	206	463	0.39	789	17.9	34714	0.050	20.3	-0.91	21226	0.24	3.88	1.01
	3.83	154	594	0.39	1359	22.8	43712	0.061	21.3	-0.81	39956	0.20	2.79	1.23
	4.91	90.7	625	0.44	1142	18.1	48745	0.075	21.3	-0.63	29366	0.21	3.46	1.23
	6.11	39.0	472	0.33	942	16.0	50408	0.110	23.0	-0.47	31071	0.16	4.32	1.23

Table S1: Fit parameters to obtain the dielectric spectra of [C_2mim][OTf] and [C_2mim][$N(CN)_2$] mixtures with water.

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