

5 D F K H O & I O D Q R / Q R I
) D F X O M Q W B Q D 7 D N H P D W V X
) X Q G H Q & E W W U H O O

3 K R W R S U F R S H L B W D P H I L V Q Q D S K W K R O L Q L P L G D] R O L X P V D

3KRW RDFLGV DUH PROHFXOHV WKDW EHFRPH

PRUH DFLGLF XSRQ H[FLWDW
VWDWH SURWRQ ~~AKUHD~~ QKDIYHJ E
XVHG LQ YDULRXV PDWHW~~L~~
GXH WR WKHLU DELOLW\ WR
FRQWU~~RZK~~ IS+HQKDQFHG DFLG
KDV EHHQ DWWULEXWHG WR
UH~~GLEXWML~~ RQ LQ WKH H[FLWH
SKRWRDFLGLW\ FDQ EH HQK



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W K D W K D V E H H Q V K R Z Q W R X Q ^{excitation, ZCH can either relax back to the ground state or}
 deprotonate. The carbons of 2OH in the ground state is
 numbered according to naming conventions.
 S D W K Z D \ V D W H R L U W K H W L W K H H G H
 R Q W K H V R O Y H Q W H Q Y L U R Q P H Q W & R Q V L G H U L Q P H W F K D D Q L F V K P D U L J Q H W U H R G L X / F
 F K D U J H G V R O Y H Q W V X F K D V L R Q L F O L T X L G V , / F R X O G I X U W K H U L P S I
 U H € \$ C E E W A R V D T @ S Q Q Q M D T @ K Q Q Q D X T H L D C G G W P H I C J R D E W H R Q S O V E V R Q S @ L Q Q H A L V _ ñ _

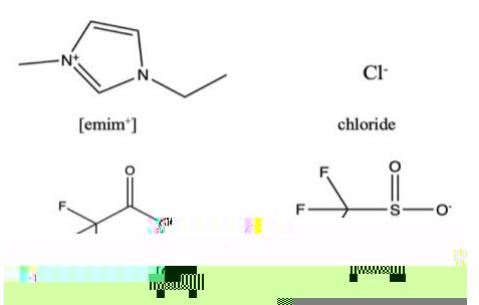
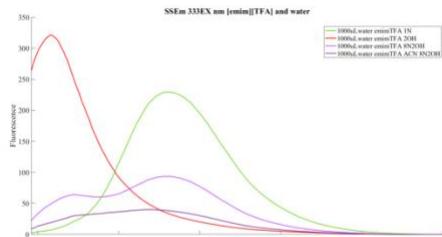


Figure 2. Proposed ions for ionic liquids; [emt_n[Cl]⁻], [TFA]⁻, and [OTf]⁻.

VROYHQWV VXFK DV ,/V 6WZKQWUHUVXIUHV2+ LQ
UHYHDQ\SHGIVLW\H (637 DV FDWLRLQLF 1 2+ RQO
(637 DW WKH 2+ VLWH 7KH VWUXFWXUDO GHS
SKRWRFKHPLVW\W\H [DPL1Q2HG XVLQJ WKH IROORZ
HWK\PHWK\OLPLGD] RQOLQHQG\H\PLURLQJ DQLRQV
FRPELQDWLRQ\Q\I\QXRUR\QFH\W\Q\W\H >7)\$
WULIOXRURPHWKDQH\H\Q\I\Q\Q\W\Q\GLF\2\W\U\X\W\X\U
LPSDFWHGERWKWK\W\W\W\Q\Q\W\Q\GLF\2\W\U\X\W\X\U
DQGFRQWURQ\B\Q\W\W\Q\Q\W\Q\GLF\2\W\U\X\W\X\U
7KHHR\H\W\H DQLRQ RQ WKH JURXQG VWDWH
DV SUHYLRXV UHVHDUFK KDG RQO\ UHSRUWHG
7KHVSHFWUDO HYLGHQFH DOVR VWS\SRUWHG



FRPSOH[EHWZHHQ WKH SKRWRDF
)XUWKHUIR~~B~~QZDURQV FRQWDP
 FRQGXFW~~HRS~~XQW~~W~~WDW VPDOO DPI
 LPSDFW RQ H[FLWHG
 SKRWRD~~FLG~~@>L7@>HMP LZDV RQO\ DI
 VLJQLILFDQW DPRXQWV RI ZDWHU
 REVHUYHG)XW~~XUH~~ ZRUN QGH~~FGW~~WHV
 UHJDUGLQJ ZDWHU ,/ PL[WXUHV I
 DQG RWKHU WDUJHW SKRWRD~~FLG~~
 7KLV VXPPHU DOORZH~~G~~ PH W
 H[SORUH P\ DFDGHPLF LQWHUHVW
 JUDGXDW~~H~~ SURJUDPV 6LPLODUO\
 QXPHURXV OHVVRQV DQG KDV EHI
 PH

PROXPH ZDV DGGHG \$ V
IRU 1 2+ ZDV REVHUYHG

\$JPRQ - 13K\V &KHP \$ 7ROEHUW / 0 - \$DPX E&LKHFRK 6RF=KRX 3 \$FBDQ&KHP 5HV
\$PGXUVN\ BKHWW &IOHP % /L - HW3KOV &KHP 2 *URYHV 0 6 1HOVRQ .
5 & 7DNH BKHWW X&KHP &KHP 3K\V