

Electronic Supplementary Information

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Pollen	% C	% H	% N	% S
No treatment	44.1743	5.8116	7.5825	0.4867
IL (3)-treated	54.1712	7.3353	10.0277	0.4252
IL (4)-treated	52.0962	7.3666	10.4272	0.2863
IL (5)-treated	52.3828	7.4425	10.3383	0.3017
IL (6)-treated	64.4981	6.4480	2.2447	2.8328
IL (7)-treated	54.1013	7.3910	8.7302	1.5800

Table S.1. Elemental composition of pristine and IL-treated pollen grains (*Populus deltoides*).

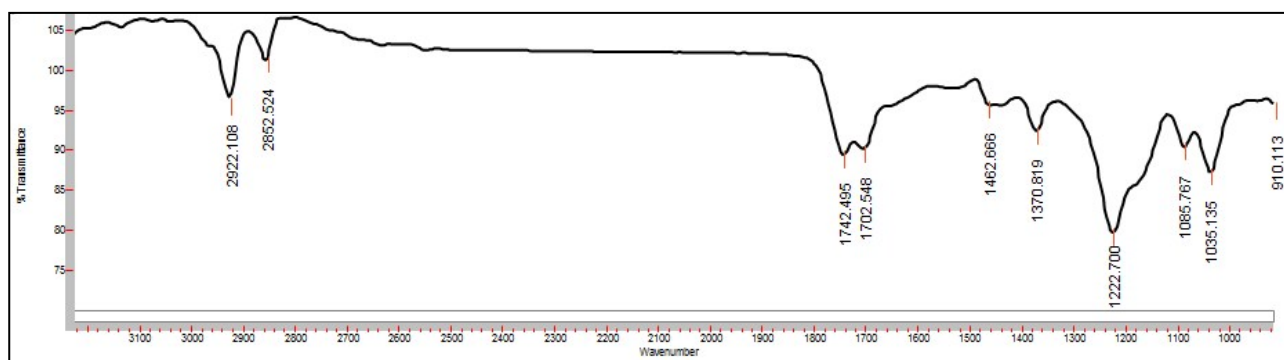


Fig. S.1. FTIR spectra of Ac₂O/H₂SO₄-treated pollen.

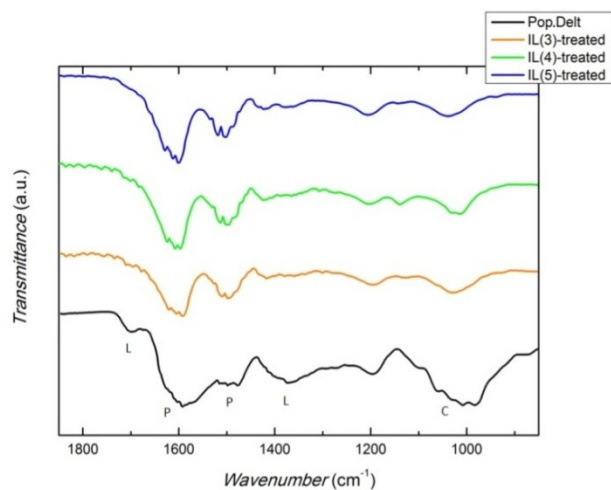


Fig. S.2. FTIR spectra of the pristine pollen *Populus deltoides* and the pollen grains after treatment with alkyl-phosphate or alkyl-phosphonate based ILs: IL(3): [DMIM][(MeO)(H)PO₂]; IL(4): [DMIM][(MeO)(Me)PO₂]; IL(5): [DMIM][(MeO)₂PO₂].

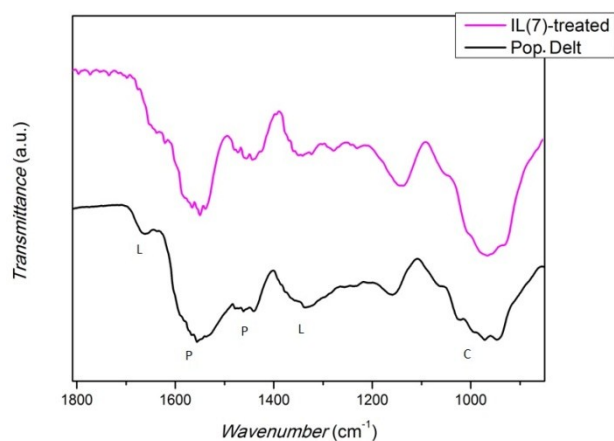


Fig. S.3. FTIR spectra of the pristine *Populus deltoides* and IL(7)-treated [DBUH][HSO₄] pollen grains.