Supporting Information

Enabling a non-flammable methyl(2,2,2-trifluoroethyl) carbonate electrolyte in NMC622-graphite Li-ion cells by electrode pre-passivation

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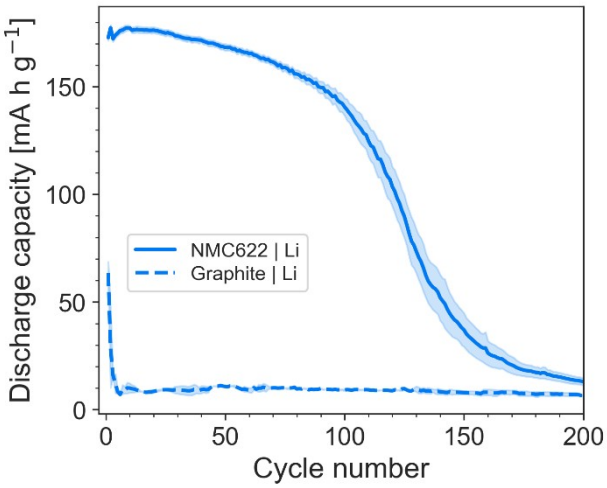

Figure S1: cycling data for NMC|Li and graphite|Li half cells containing pristine electrodes and $LiPF_6$/FEMC electrolyte.

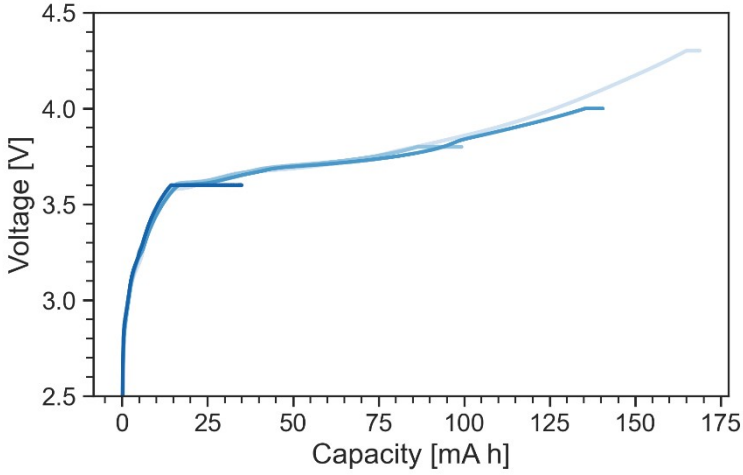

Figure S2: charge curves of the cells pre-passivated to 3.6, 3.8, 4.0 and 4.3 V.

Table 1: compositions of the SEIs of the pre-passivated graphite electrodes before and after cycling in $LiPF_6$/FEMC, as calculated from HAXPES. The probing depth is ca. 50 nm.

	C	F	Li	O	P
Pre-passivated	30%	16%	47%	6%	1%
4.3 V in FEMC	18%	26%	44%	9%	3%
1 cycle in FEMC	14%	27%	48%	9%	2%
5 cycles in FEMC	10%	26%	54%	8%	2%
30 cycles in FEMC	12%	24%	50%	10%	4%