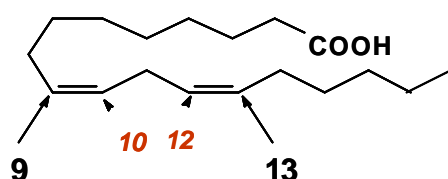


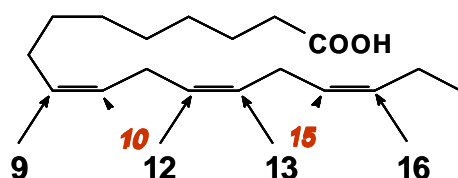
**Supplementary Figure S1:** Hydroxy fatty acid distribution for the oxidation of linoleic (18:2) and linolenic (18:3) acids.

Isomer distribution was evaluated by HPLC-MS/MS of the products of 18:2 or 18:3 peroxidation by FR generating agents ( $H_2O_2$  and *tert* butyl hydroperoxide: BOOH) or by  $^1O_2$  (methylene blue), after reduction into hydroxy fatty acids (HFAs) (see Material and Methods). The HFA signature is given as relative normalized levels. The isomers in red are specific for the oxidation by  $^1O_2$ . Mean and SD from 3 independent experiments.

**Abbreviations:** see footnotes for HOTE; 9-HODE, 9-hydroxy-10,12(*Z,E*)-octadecadienoic acid; 10-HODE, 10-hydroxy-8,12(*E,Z*)-octadecadienoic acid; 12-HODE, 12-hydroxy-9,13, (*Z,E*)-octadecadienoic acid; 13-HODE, 13-hydroxy-9,11(*Z,E*)-octadecadienoic acid.



Reaction	9-HODE	10-HODE	12-HODE	13-HODE
Methylene Blue	34.3±3.3	16.3±4.5	12.5±3.0	36.9±4.2
$H_2O_2$	41.3±0.2	0.9±0.2	0.9±0.2	57.0±0.4
t-BuOOH	41.1±1.7	4.8±2.6	3.4±1.8	50.7±2.6



Reaction	9-HOTE	10-HOTE	12-HOTE	13-HOTE	15-HOTE	16-HOTE
Methylene Blue	20.8±1.6	17.2±1.9	13.2±0.7	13.1±0.5	11.7±1.0	24.0±2.3
$H_2O_2$	29.4±0.7	1.8±0.2	9.7±0.4	12.4±1.0	0.6±0.1	46.2±0.9
t-BuOOH	31.4±1.1	1.7±0.2	10.3±1.1	12.7±1.2	1.2±0.5	42.8±2.1