SUPPORTING INFORMATION

for

Oxidation of Plasmalogen, Lipoprotein, and RAW 264.7 Cells by Photoactivatable Atomic Oxygen Precursors

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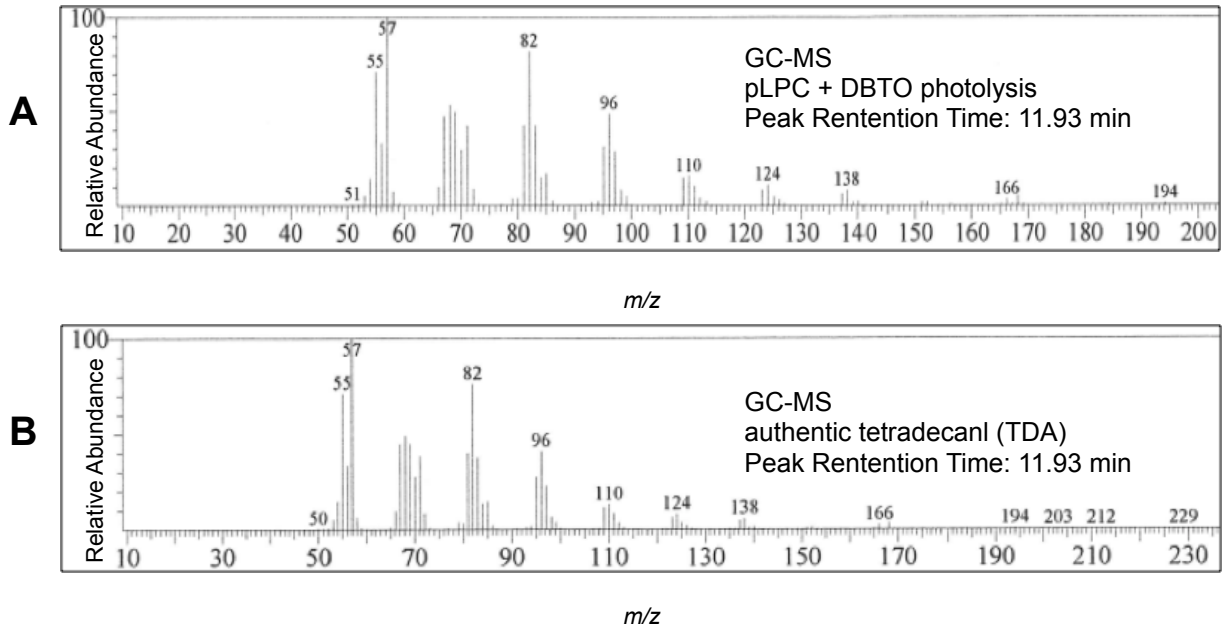
Preparation of Dibenzothiophene- *S*- Oxide. *m*-Chloroperoxybenzoic acid (28.8 mmol) dichloromethane (20 ml) solution was added slowly to a solution of Dibenzothiophenen (24 mmol) at -78 °C in dichloromethane (20 ml) during 30 min. The mixture was stirred at this temperature for 2 hours then the reaction was quenched with a saturated aqueous solution of $NaHCO_3$. The aqueous portion was extracted with dichloromethane several times. The combined organic layers were dried over $MgSO_4$, and then the solvent was removed under reduced pressure. The residue was purified by column chromatography (Hexane/ethyl acetate) to afford desired compound in a 63% yield, which was confirmed by comparison to a previously reported NMR.[1] ^{1}H NMR (DMSO, 400Hz) δ 7.59 (2H, t, J=8Hz); δ 7.72 (2H, t, J=8Hz); δ 8.08 (2H, d, J=8Hz); δ 8.14 (2H, d, J=8Hz).



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33 **Figure S1.** Comparison GC-MS results of unknown product from pLPC oxidation by UV

34 irradiation of DBTO to authentic sample of tetradecanal. A: GC-MS of unknown aldehyde. B:

35 GC-MS data for an authentic sample of tetradecanal.

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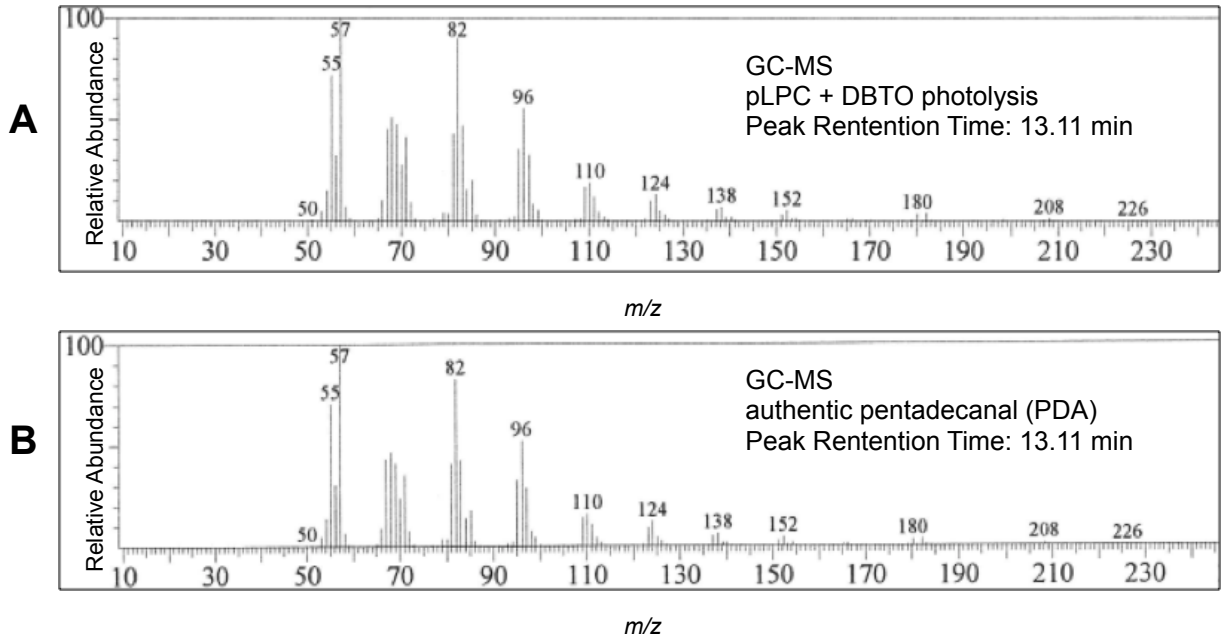

Figure S2. Comparison GC-MS results of unknown product from pLPC oxidation by UV irradiation of DBTO to authentic sample of pentadecanal. A: GC-MS of unknown aldehyde. B: GC-MS data for an authentic sample of pentadecanal.

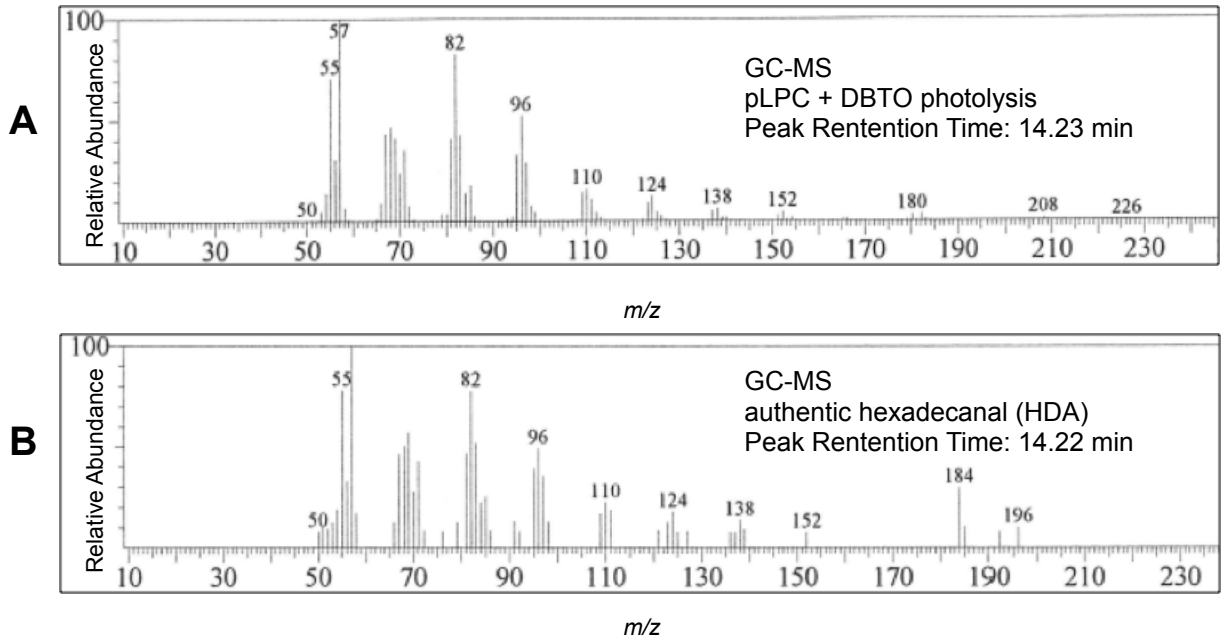

Figure S3. Comparison GC-MS results of unknown product from pLPC oxidation by UV irradiation of DBTO to authentic sample of hexadecanal. A: GC-MS of unknown aldehyde. B: GC-MS data for an authentic sample of hexadecanal.

REFERENCES

[1] Nelsen, S. F., Y. Luo, M. N. Weaver, J. V. Lockard, J. I. Zink, (2006) Optical spectra of protected diamine 10-bond-bridged intervalence radical cations related to N,N,N'N'-tetraalkylbenzidine. *J. Org. Chem.* **71**, 4286-4295.