Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Electronic Supplementary Information

Long-term thermal stability of trihexyl(tetradecyl)phosphonium chloride

Clio Deferm, Arne Van den Bossche, Jan Luyten, Harald Oosterhof, Jan Fransaer and Koen Binnemans*

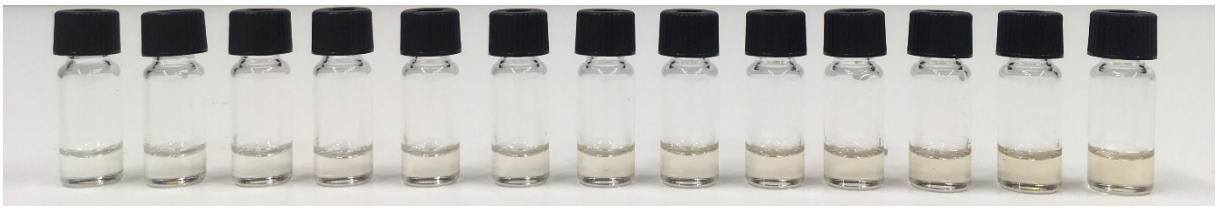

Fig. S1 Purified Cyphos IL 101 after 12 h exposure at 180 °C in N_2 atmosphere. Exposure for 0 to 12 hours going from left to right.

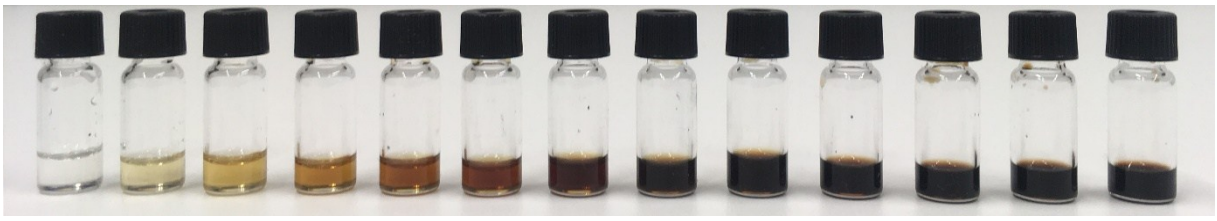

Fig. S2 Purified Cyphos IL 101 after 12 h exposure at 180 °C in air. Exposure for 0 to 12 hours going from left to right.

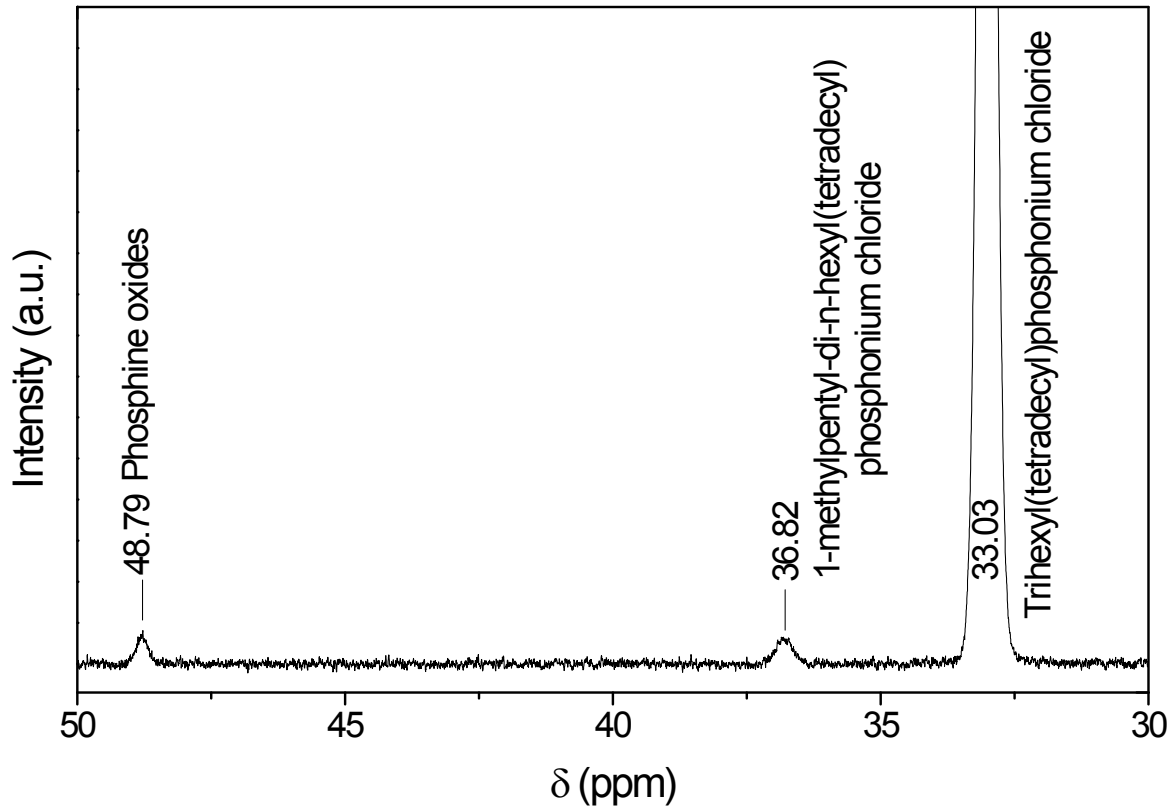

Fig. S3 Coupled ^{31}P NMR of purified Cyphos IL 101 (>99%).

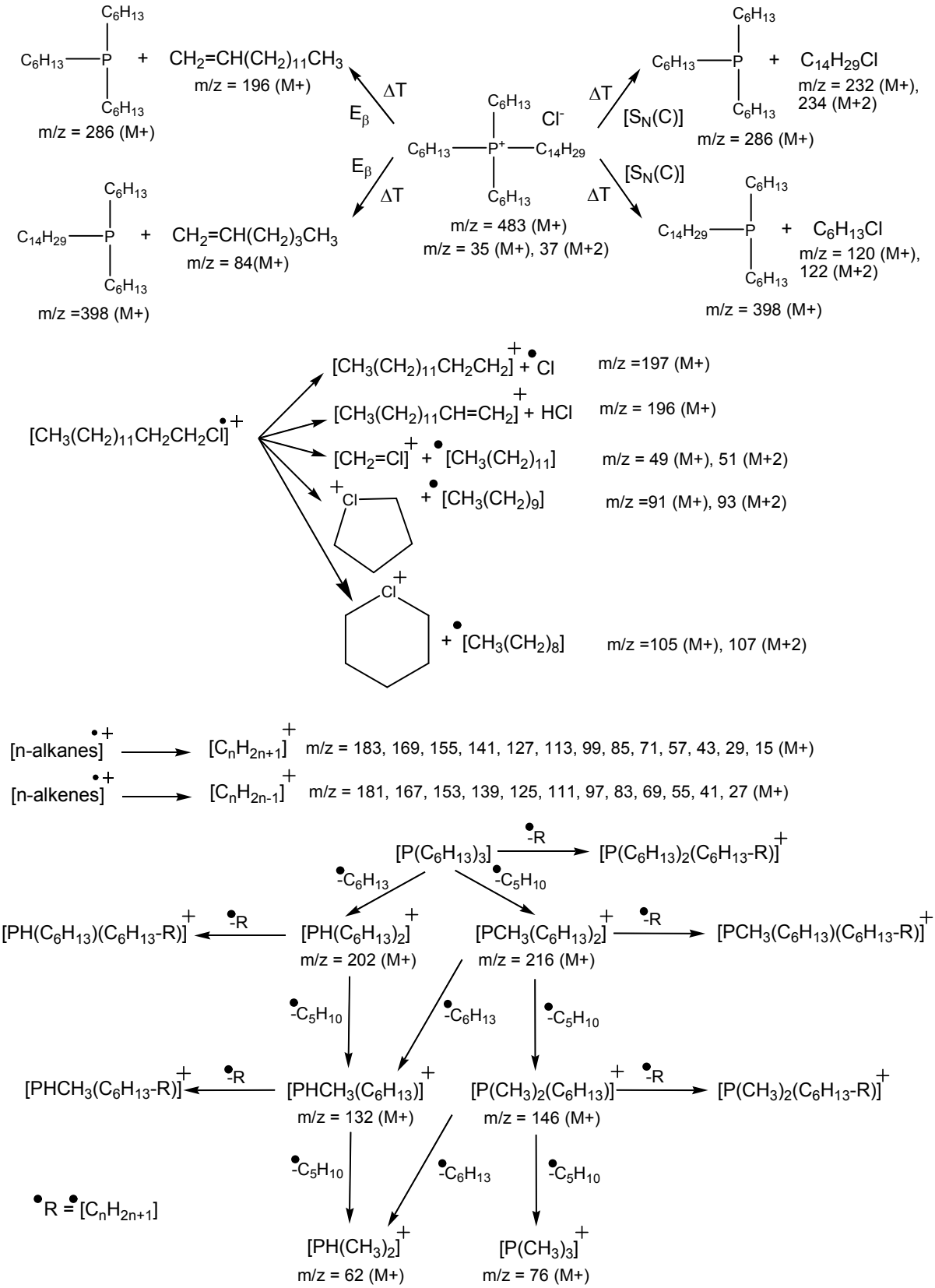

Fig. S4 Thermal degradation pathways and possible mass fragments of Cyphos IL 101. Similar fragmentation patterns for phosphine oxides are obtained as for the phosphines with the difference that all ions containing phosphorous are sixteen mass units heavier due to presence of an oxygen atom.[1,2]

Notes and references

1 T. J. Watson, D. O. Sparkman, *Introduction to Mass Spectrometry: Instrumentation, Applications, and Strategies for Data Interpretation*, 4th edition, John Wiley and Sons, Hoboken, New York, 2007.
2 S. Franks, F. R. Hartley and D. J. A. McCaffrey, J. Chem. Soc., Perkin Trans. 1, 1979, 0, 3029–3033