

***Interactive comment on “Technical Note:
Synthesis of isoprene atmospheric oxidation
products: isomeric epoxydiols and the
rearrangement products *cis*- and
trans-3-methyl-3,4-dihydroxytetrahydrofuran” by
Z. Zhang et al.***

M. Claeys (Referee)

magda.claeys@ua.ac.be

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General comments:

This technical note reports straightforward organic synthetic procedures for isomeric C5-epoxydiols and the rearrangement products *cis*- and *trans*-3-methyl-3,4-dihydroxytetrahydrofuran. The availability of isomeric C5-epoxydiols may shed light on the formation mechanism of isoprene secondary organic aerosol (SOA) tracers such as

C4750

the 2-methyltetrols although a formation mechanism starting from C5-alkene diols as originally proposed (Claeys et al., 2004) cannot be ruled out at present. The synthetic procedures are clearly described. The products have been obtained in satisfactory yields and good purity (>99%), and have been well characterized using GC/EI-MS, ¹H-NMR, ¹³C-NMR and 1-D NOESY NMR. Only some minor technical corrections are needed.

Technical corrections:

- 1) 2. Experimental section: I suggest to provide the addresses of the suppliers for the chemicals used.
- 2) Page 14250 – line 8: the abbreviations BSTFA and TMCS should be explained.
- 3) Page 14251 – line 22 (and places elsewhere): replace “ether” by “diethyl ether”.
- 4) Page 14253 – line 22:, 191, (delete a “,”)
- 5) Figures: it would be useful to explain the abbreviations for the chemicals used again in the legends to the figures.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 14247, 2012.