

Interactive comment on “Clues for a standardised thermal-optical protocol for the assessment of organic and elemental carbon within ambient air particulate matter” by L. Chiappini et al.

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We thank Referee #3 very much for the review. As underlined by Referee #3, the present study mainly demonstrates the need for further investigations. We agree that a limitation of the results obtained from the intercomparison exercise is the small number of laboratories involved. The latter point will be clearly stated in the revised manuscript. We also agree that the impact of the optical correction type (TOT vs. TOR) on the obtained EC concentration is much more evident for rural samples than for semi-rural ones. This might be due to a large influence of anthropogenic emissions at the semi-rural site investigated here (Po valley). In this respect, only the difference between rural

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and urban samples will be discussed in the revised manuscript. Moreover, Referee #3 noticed that, for samples with low EC+POC loadings, EC concentrations are higher with a soiled than with a clean oven. This is only true here when using the NIOSH protocol (Fig. 7b) for reasons that could not be elucidated yet. Finally, we also thank Referee #3 for the various corrections he suggested. All of them will be taken into consideration in the revised manuscript as described below:

P10235, L17. IMPROVE / IMROVE A: will be corrected.

P10236, L22. Color was not assigned to each protocol in Table1; please, delete A: will be deleted.

P10237, L17: “similar PM10 concentration” instead of “same PM10” A: will be changed as suggested.

P10242, L9. “To go deeper: : ...” move to other paragraph A: will be moved to a new paragraph.

P10243, L6. 1 m63 h-1 / 1 m3 h-1 A: will be corrected.

P102046, L 10-12. I couldn't find this info in the supporting information. A: It is not, sorry. As it is not useful here, this sentence will be deleted.

P10247, L16-23. Fig 7a and /b; a and b are not indicated in Figure 7. A: a and b are actually indicated (within parentheses).

P10248, L10-13. This sentence can be shortened; the first part of the sentence could be eliminated. A: the first part of the sentence will be eliminated.

P10249, L28. Ammonium sulfate is a non-refractory material A: “non-refractory” will be deleted.

Figure 1. Please indicate that EC/TC ratios depicted for Lab 3 correspond to TOT Correction A: It will be indicated that every laboratory was using TOT correction here.

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Figure 4. Urban and rural samples. A: caption of Figure 4 (and of Figure 3) will be changed.

Figure 5. Please, revise figure caption, position of panels is opposite Figure 7. Please, revise figure caption, position of panels is opposite A: figure captions will be revised accordingly.

Table 1: Lab 3, charring corrections was by both Transmittance and reflectance A: will be added.

Table 2: Insert the OC, CE, and CT tags in the head in the front row A: will be inserted.

Interactive comment on Atmos. Meas. Tech. Discuss., 6, 10231, 2013.

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