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## *Interactive comment on* "Characteristics of $PM_{2.5}$ speciation in representative megacities and across China" by F. Yang et al.

## Anonymous Referee #1

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The manuscript could contain important information and worthy of publication in ACP. However, the current version is not well organized and needs a substantial revision. This reviewer likes to re-review the revised manuscript. Detailed comments are listed as below: 1) Section 3.1, the comparison is very confused. The authors should clearly state the importance to compare chemical species of PM2.5 in four Chinese cities with those outside China. 2) Page 1033, lines 20-22, "This comparison implies that mobile sources were likely more important than stationary sources (including ship emissions in the Pearl River) in Guangzhou." This is too speculated, more solid evidence, e.g., emission data, is needed. 3) Page 1033, lines 27-30 and Page 1034, lines 10-11, these analyses are contradictory to each other. 4) Section 3.2 does not match the manuscript title well; please consider revising one of them. 5) Page 1037, lines 6-13, it is very difficult to understand and this reviewer can not follow the logic. 6) Page 1037,

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Lines 20-21, "This probably indicates there was significantly larger regional contribution of SNA at this rural site." How about less primary OC emission? 7) Page 1037, the last paragraph, page 1038, the top two paragraph, this reviewer cannot understand what the authors were trying to say. 8) Page 1039, the top paragraph, the logic is not clear to this reviewer.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 1025, 2011.