

## ***Interactive comment on “Molecular characteristics and diurnal variations of organic aerosols at a rural site in the North China Plain with implications for the influence of regional biomass burning” by Jianjun Li et al.***

**Anonymous Referee #1**

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The manuscript by Li et al. had a comprehensive characterization of molecular composition of organic aerosol at a rural site in North China Plain, and investigated the impacts of biomass burning, and the sources of organic aerosol. One advantage of this study is the high time resolution of filter sampling (3 h) compared with previous studies. The authors chose two different periods to discuss the differences between local and regional sources. Overall, this study presents a huge dataset containing rich chemical information, and it is worth for publication in ACP.

My major concern is the selection of period 2 (P2). The time series of species showed

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that P2 was characterized by a clean period (winds dominantly from the north, see supplementary) followed by a strong local event (very likely). This indicated a mixed event rather than a pure local. In fact, the chosen of P2 can affect the conclusion substantially. I suggest the authors reevaluating the event of P2.

Biomass burning typically showed much higher OC/EC ratios than those reported in this study, could the authors give more explanation?

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