

Interactive comment on “Chemical composition and droplet size distribution of cloud at the summit of Mount Tai, China” by Jiarong Li et al.

Anonymous Referee #1

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Comments on “Chemical composition and droplet size distribution of cloud at the summit of Mount Tai, China” by Li et al. Clouds can affect the earth’s radiation budget and regional and global climate, which are influenced by the chemical compositions of cloud waters. However, limited studies have been conducted on the interactions between aerosols and the chemical and microphysical properties of clouds, especially in East China. Here, Li et al. report the chemical composition of 39 cloud samples that were collected at the summit of Mt. Tai in the North China Plain from July to October 2014. In addition, microphysical properties of cloud droplets, including cloud droplet size distribution (CDSD), liquid water content (LWC), and droplet number concentration were investigated. Overall, the manuscript is well written and easy to follow. I suggest it to be accepted for publication in ACP after some modifications as listed below: 1. Page 3, line 29: Any reference on the measurement of these organic acids using IC?

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Please provide it. 2. Page 3, line 30-31: it’s not clear to readers how OC and EC in cloud samples were measured using a sunset OC/EC analyzer. Detailed information is needed here. 3. The authors report organic acids in cloud samples from the summit of Mt. Tai. What’s the main sources of the measured organic acids such as lactic and oxalic acids in cloud waters? Detailed discussion on such a point is needed. 4. Are there any correlations between organic acids and water-soluble cations in the cloud samples?

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