The reviewer issued the following

Comment: "I think the manuscript has improved over the last version. Many additional current references help with the quality of the manuscript.
I think the authors still under utilize the power of C/N ratios to constrain the sources of RSM. Several studies over the last 10 years have invoked DOM flocculation as a dominant sink for boreal river/lake DOM. The consistently low C/N ratios of RSM reported in this manuscript are a very strong argument against the quantitative importance of flocculation/aggregation of DOM in these very significant systems. Such a statement in the manuscript would elevate the paper as one that helps to settle a controversial argument within the community and would most likely lead to higher number of citations. But this is ultimately up to authors.

Answer: We totally agree with this very pertinent remark. Indeed, the consistently low C:N ratios of RSM across rivers of various size and climatic zones suggests low importance of flocculation and aggregation of DOM in lothic waters of Siberian lowlands. Further, the absence of significant relationship between the lake proportion at the watershed and C:N ratio implies negligible impact of DOM coagulation due to photolysis (von Wachenfeldt et al. 2008, von Wachenfeldt and Tranvik, 2008) or bacterial activity (von Wachenfeldt et al. 2009), with subsequent transformation of coagulation products as it is known in European humic lakes (Kortelainen et al. 2006, 2013). It is important to note that the range of C:N in RSM of WSL is far from that reported for of DOM in soil solution of boreal taiga (ca. 100, Ilina et al. 2014; 40 to 80, Dymov et al. 2013) and humic (peatland) lakes (> 50, Chupakov et al., 2017) so that the coagulation of DOM from soil waters or lakes thus producing particles in the rivers is also unlikely. We added pertinent discussion in the end of section 4.2 (L376-386).
We also added a sentence on non-importance of DOM flocculation in WSL rivers as sources of particles (L510-512).

New references added to the ms:
Dymov A.A., Dzhangurov E.V. & Startsev V.V. 2013. Soils of the northern part of subpolar Urals: morphology, physicochemical properties, and carbon and nitrogen pools. Eurasian Soil Science 5: 507–516.
Ilina S.M., Drozdova O.Y., Lapitskiy S.A., Alekhin Y.V., Demin V.V., Zavgorodnyaya Y.A., Shirokova L.S., Viers J. & Pokrovsky O.S. 2014. Size fractionation and optical properties of dissolved organic matter in the continuum soil solution-bog-river and terminal lake of a boreal watershed. Org. Geochem. 66: 14–24
Kortelainen P., Rantakari M., Pajunen H., Huttunen J.T., Mattsson H., Juutinen S., Larmola T., Alm J., Silvola J. & Martikainen P.J. 2013. Carbon evasion/accumulation ratio in boreal lakes is linked to nitrogen. Glob. Biogeochem. Cy. 27: 363–374
Von Wachenfeldt E, Tranvik LJ (2008) Sedimentation in boreal lakes the role of flocculation of allochthonous dissolved organic matter in the water column. Ecosystems 11, 803-814.
Von Wachenfeldt E., Sobek D., Bastviken D. & Tranvik L.J. 2008. Linking allochthonous dissolved organic matter and boreal lake sediment carbon sequestration: The role of light-mediated flocculation. Limnol. Oceanogr. 53, 2416–2426.
Von Wachenfeldt E., Bastviken D. & Tranvik L.J. 2009. Microbially induced flocculation of allochthonous dissolved organic carbon in lakes. Limnol. Oceanogr. 54, 1811–1818.