Reviewer #1:
In the present manuscript Zhao et al, shows the synthesis a series of Carbon Dots based on solvent control of this process. The authors prove that the different properties of the solvents are fundamental for the photophysical properties of the obtained CDs. Furthermore, the Y-CDs have been proved to be useful in crystal violet (CV) sensing.

Despite the paper is well written and easy to understand, a few minor points which should be addressed before acceptance.

**Comment 1:** Line 71 and 154 space before the references has to be removed.
**Response:** Thanks for your suggestion. Thanks for your suggestion. Line 71 and 154 space before the references has been removed.

**Comment 2:** In the Figure 2, which is the concentration of the measured samples? Furthermore this figure appears before its first call in the main text.
**Response:** We detailed the concentration of the sample in the revised manuscript. ‘As shown in Fig.2, The concentration of the sample to be tested is 1 mg/mL.’ Furthermore, Fig.2 appears in line 203 in the revised manuscript.

**Comment 3:** In Fig 3a, how do authors explain the MC long wavelength emission?
**Response:** In our study, acetone (CP), ethyl acetate (EAC) and dichloromethane (MC) are non-protic solvents, but the fluorescence wavelength of prepared CDs in MC is obviously longer than that in other solvents. We think that is because MC molecules contain chlorine atoms, and the existence of lone pairs of chlorine would impact the surface state of carbon dots. The reference to the impact of solvents upon the fluorescence of CDs is quite limited, so further studies need to be done for the researchers.

**Comment 4:** just as a suggestion, shouldn't it be more visual just to put the overlaid emission spectra of the CDs in the different solvents? And as in UV-vis measurements, which are the CDs concentrations used? These data must be added in the text or at least in the Supporting Information file.
**Response:** The two figure forms of Figs 3(a) and (b) were compared during our writing of the manuscript. When the wavelength was set as the abscissa, the spectra overlapped greatly because the wavelengths of CDs prepared by some solvents are quite close, while when applying Fig. 3(c) form (UV-vis spectra), the emission spectra were longitudinally compressed and severely deformed. Therefore, these two figure forms both failed to directly express the difference of CDs fluorescence properties prepared by solvents. We thus chose Figs 3(a) and (b) to expresses that.

**Comment 5:** Line 282 Raman instead of Roman
**Response:** ‘Roman’ has been replaced by ‘Raman’.

**Comment 6:** Figure 6a, the yellow line is difficult to see, I suggest authors to change the color of this graph.
**Response:** Thank you for your suggestion. The yellow line has been replaced by the blank
Figure 6. (a) FTIR spectrum of R-CDs and Y-CDs. (b) N1s spectrum of R-CDs. (c) N1s spectrum of Y-CDs.

Comment 7: Line 310 FTIR instead of FIRT.
Response: We have changed ‘FIRT’ to ‘FTIR’.

Comment 8: Line 320, controlled instead of control
Response: This sentence ‘…properties are control by quantum confinement…’ has been replaced by ‘…properties are controlled by quantum confinement…’.

Comment 9: Line 321, it makes a mention to section 3.4 which is not in the manuscript
Response: We are so sorry. ‘Section 3.4’ should be modified to ‘section 3.1’.

Comment 10: Figure 7, HOMO instead of HUMO.
Response: We have changed original figure to the revised figure 7.

Figure 7. A possible luminescence mechanism for CDs.

Comment 11: In Figure 8 there is a new band centered at 630 nm, do the authors know the origin of this band?
Response: We are not quite certain about the source of the new peak at 630 nm, so we didn't do a detailed discussion in the manuscript. We proposed the origin of this new peak might be: crystal violet can not only quench the fluorescence of CDs based on inner filter effect, but can also combine with CDs to form complex, which might exhibit weak fluorescence at 630 nm. This is our speculation, and more experiments need to be done to verify that.
**Comment 12:** Do the authors have an explanation for the high steam pressure to be more beneficial for the growth of long wavelength emissive CDs?

**Response:** It is known that the high steam pressure would set impacts upon the reaction speed and the properties of reactants. For instance, graphene carbon can be turned into high density and ordered diamond state carbon under high pressure environment. During the preparation of CDs, the high steam pressure would press the low intensity reactants to form high intensity polymer, beneficial to the formation of large carbon cores. It can also speed up the reaction process, benefiting the growth of long wavelength emissive CDs.

**Comment 13:** Why are protic solvents beneficial for the growth of long wavelength emissive CDs?

**Response:** Based on the CDs preparation experiments with different solvents, it was discovered that compared with non-protic solvents, protic solvents are more beneficial to the formation of long wavelength emissive CDs. It is well known that water and alcohol solvents (ethanol, isopropanol, methanol and n-butanol) are typical protic solvents. We thought that is because in protic solvents, the hydroxyl group can form hydrogen bonds with amino groups in the carbon source (1,2,4,5-tetraaminobenzene), which could increase conjugate system during the formation of CDs, and more beneficial to the formation of long wavelength emissive CDs. It is worth mentioning is that, when using water, the most typical protic solvent, as solvent, though the fluorescence intensity of prepared CDs is quite weak, its emission wavelength is obviously longer than other solvents. This speculation has been put in the revised manuscript, and we hope that more researchers can join in this discussion.