



SDI Review Form 1.6

Journal Name:	Chemical Science International Journal
Manuscript Number:	Ms_CSIJ_35258
Title of the Manuscript:	Relationship of intrinsic viscosity to molecular weight for poly(ethylene adipate)
Type of the Article	Research article

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	- The authors should give the type of instrument on which the viscosity was measured. - Line 210 should be corrected: there should be η_r for relative viscosity; moreover, it is dimensionless. Are there ethical issues in this manuscript? I would just recommend to cite the following paper: <i>Relationship of intrinsic viscosity to molecular weight for poly (1, 4-butylene adipate)</i>, <i>Polymer Testing</i> 29 (2010) 66–71, Zuoxiang Zeng, Li Sun, Weilan Xue, Na Yin, Wanyu Zhu. Although the studied polymers are different, the authors of the reviewed manuscript use big parts of this work. They follow methodically this work and cite the same 15 references from 24, with the same order.	-We give the type of instrument as "Ubbelohde viscometer, (capillary diameter: 0.4-0.5mm)" in the revised manuscript. -It has been changed to "Where η_r is the relative viscosity" in the revised manuscript. -In this work, we used a different method: (one-point method) to measure the intrinsic viscosity, besides, we have modified the title in the revised manuscript.
Minor REVISION comments	- The constants a, K are once in italic, once not. - The intrinsic viscosity cannot be measured, but determined from measurements. - In obtaining the constants a, K in the graphs $\log [\eta]$ as depending on $\log M_w$, n, v, it is not clear by which way the straight line was obtained and consequently a and K. - It is not explained how the intrinsic viscosity is obtained from Eq. (2). In addition, from the available data (Fig.1 for the sample with $M_w = 4454$) it can be shown that the values $[\eta]$ for the individual concentrations of the given sample calculated according to (2) show differences (for $C = 6\text{g/dL}$ and $C = 8\text{g/dL}$ up to about 8%).	- All of the constants a, K have been changed into italic in the revised manuscript. -We have changed "measure" into "determine" in the revised manuscript. -We obtain the corresponding values of a and K by plotting $\log [\eta]$ versus $\log M_n$, $\log [\eta]$- $\log q_{MHS}$ versus $\log M_w$ and $\log [\eta]$ versus $\log M_v$ respectively. For the narrow MWD, the values of a are nearly the same, the value of K is 2.36×10^{-5} (Mn), 2.116×10^{-5} (Mv), 2.097×10^{-5} (Mw) (see Eqs 11, 13). For broad MWD, the value of a is 0.7419 (Mn), 0.7330 (Mv, Mw), the value of K is 5.589×10^{-5} (Mn), 4.512×10^{-5} (Mv), 4.178×10^{-5} (Mw) (see Eqs 14, 15)



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	- Nowhere is explained the difference between M_w, M_v, M_n, M_z. - In conclusion, tetrahydrofuran is called a favorable solvent. The preferred terminology is good solvent. - It is not necessary to write always how M is obtained, since only one method was used (GPC). - Line 83: there should be specified that 0.4-0.5 mm means the capillary diameter.	- We use the empirical formula proposed by Cheng, R.Y et. al [16], and based on the experimental data, the values of $[\eta]$ for C=0.4, 0.6, 0.8, 1.0 g/dL are 0.028679, 0.028662, 0.028641, 0.028619 respectively, and they are nearly the same, so we use the average values of $[\eta]$ as the intrinsic viscosity (the difference (for C = 0.6g/dL and C = 0.8g/dL) is 0.073%) -We explain the difference in the revised manuscript -we change "favorable" into "good" in the revised manuscript. -We have deleted the repetition about how M is obtained (3.1 Molecular weight & 3.3.1 PEA with narrow MWD) in the revised manuscript. - We have changed into "capillary diameter: 0.4-0.5 mm"
<u>Optional/General</u> comments		