Exercise: determining uncertainty of crystal-free magma viscosity calculation

Read the paper 'Viscosity of magmatic liquids' by Giordano, Russell and Dingwell and answer to these questions:

1. What is the general form of the equation used to derive viscosity?
2. Which are the key magma parameters needed to make calculations (List ALL)
3. How are the numerical coefficients A, B and C constrained by the authors?
4. What is the general uncertainty associated with the model (respect with the experimental dataset)?
5. Do you think that the uncertainty is the same for all types of magmas? (see figs 3 and 7)
6. What is the uncertainty associated with A, B, and C coefficients?
7. Which are the most important oxides controlling compositional effects on viscosity?
8. How is an uncertainty of 100 C in temperature estimation affecting the uncertainty in viscosity calculations?
9. Based on the data shown in fig. 7, determine how much an uncertainty of 1 wt. % in H_2O content affects the uncertainty in viscosity calculations?