The RGB Bump

Fig. 1

The disappearance of the mirror phenomenon during the bump happens independent of mass and metallicity.

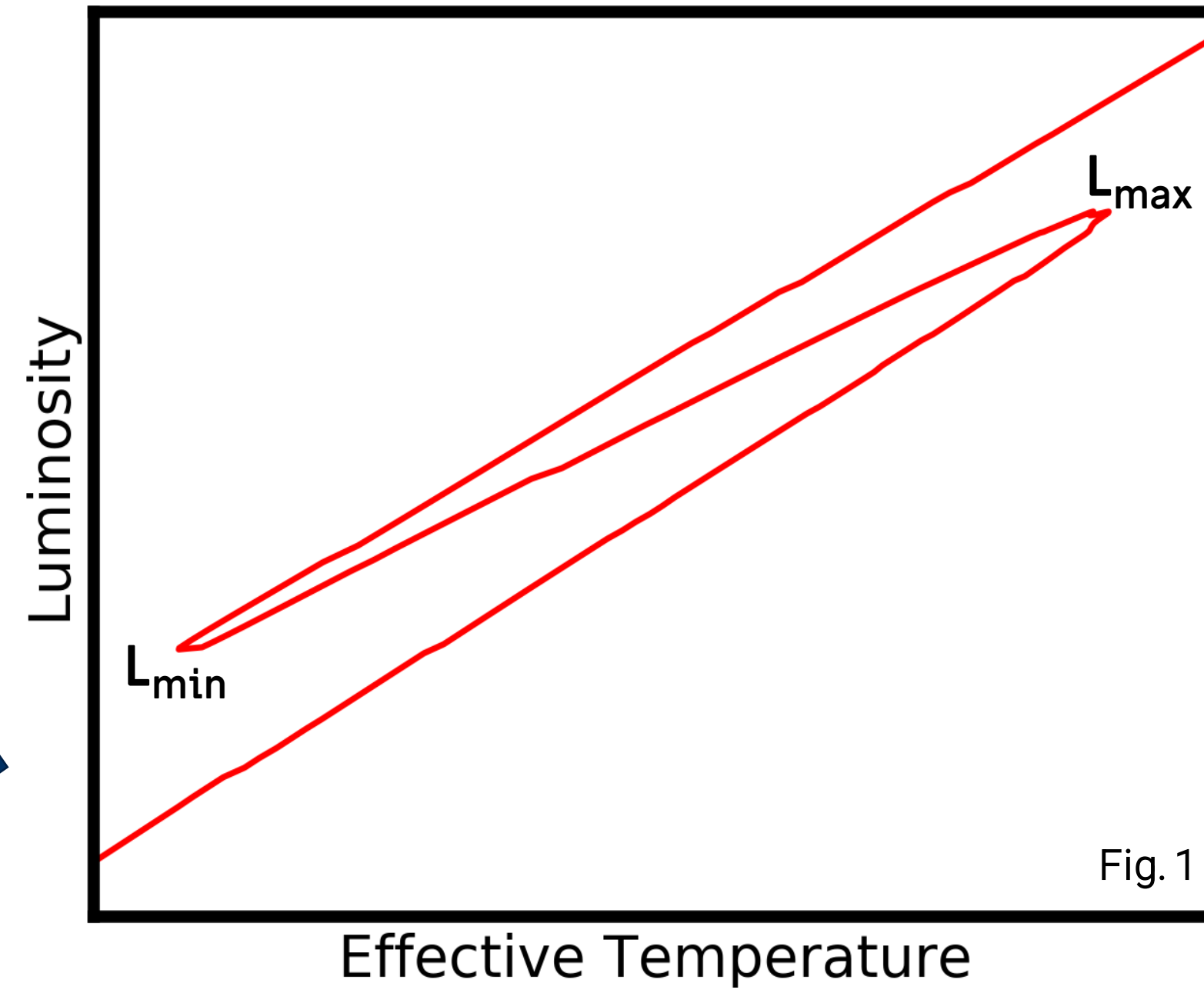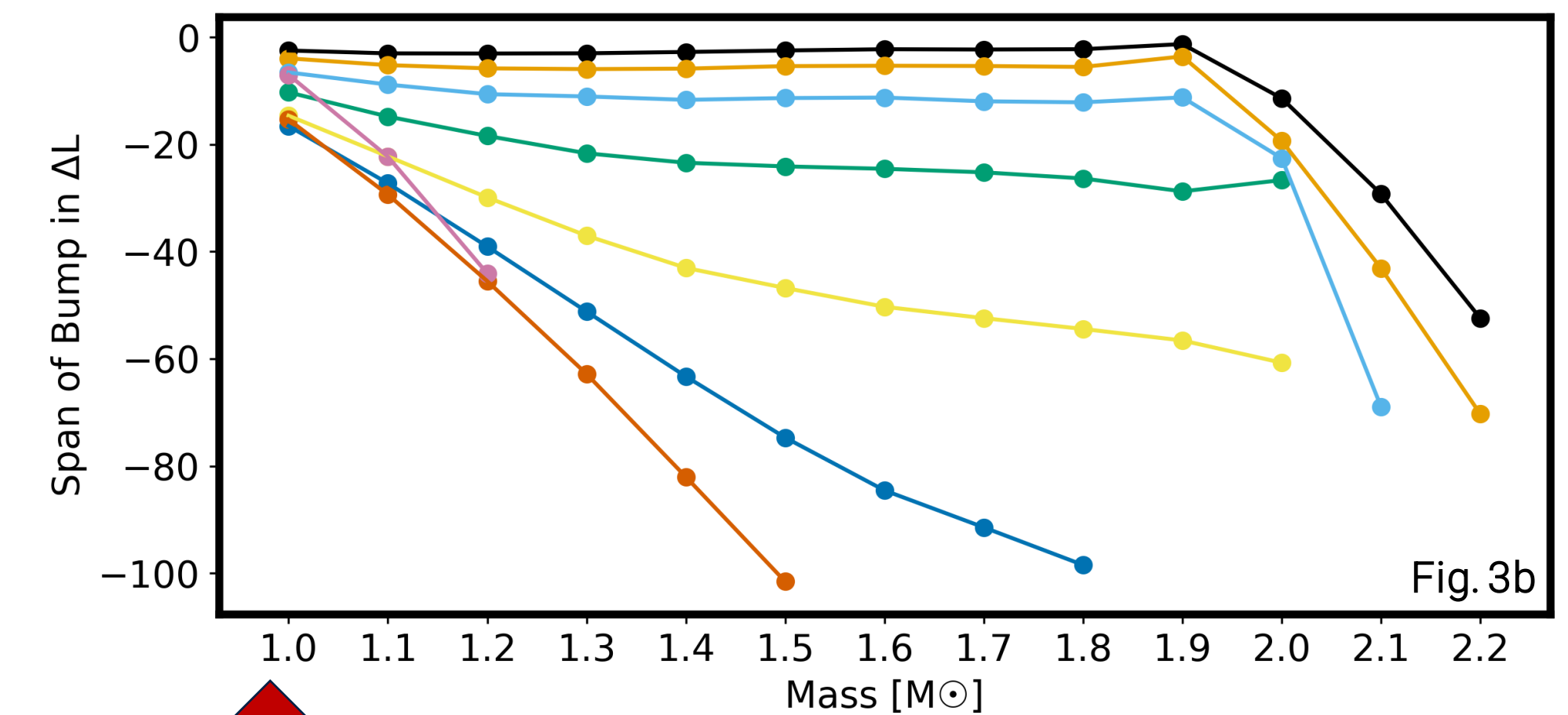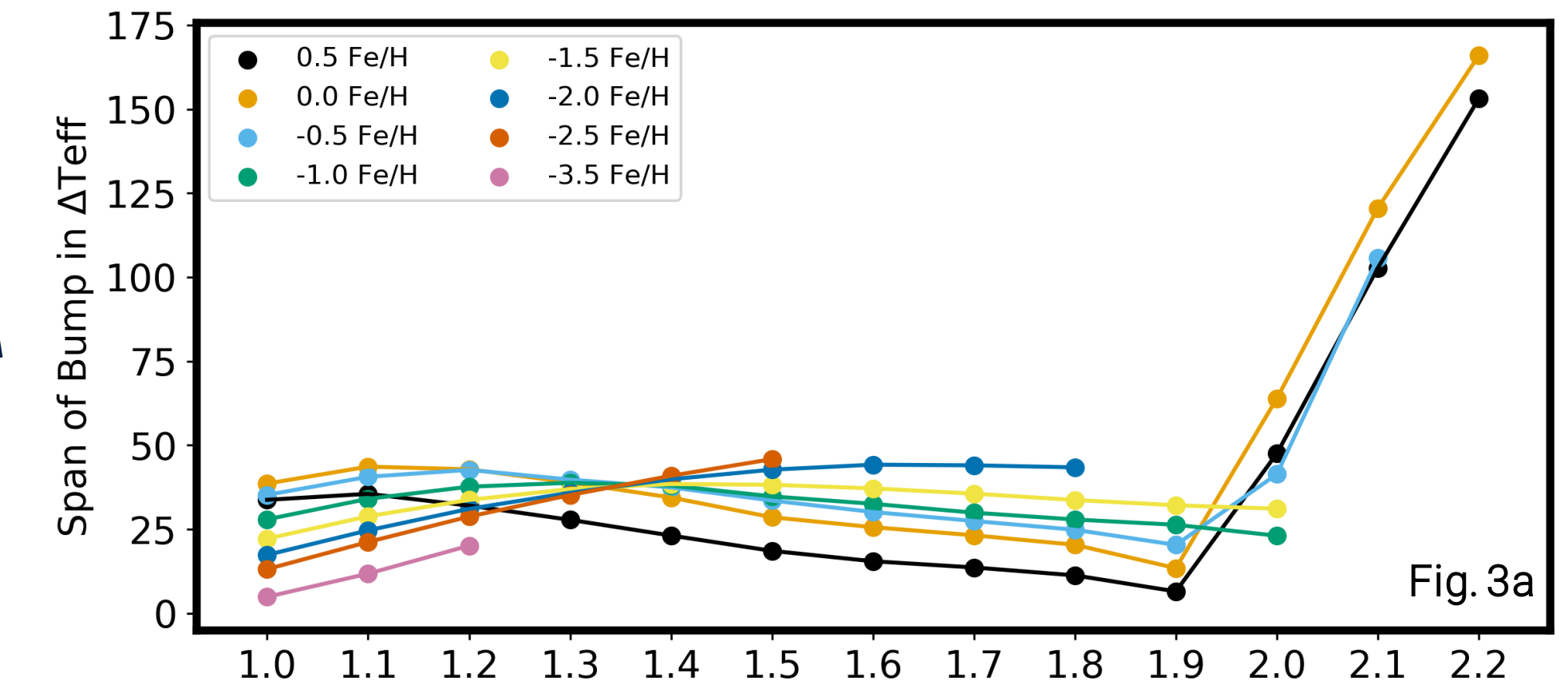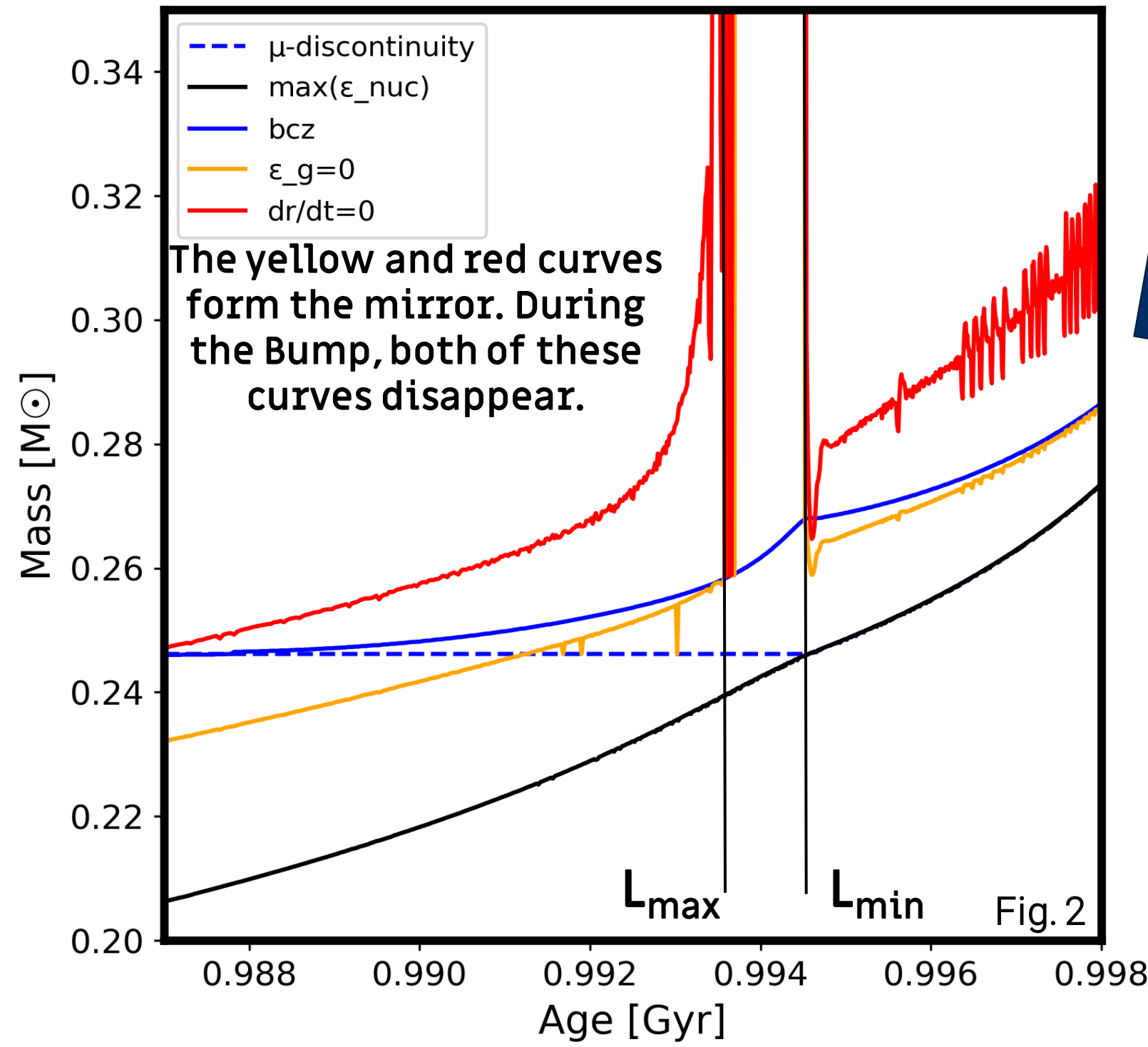The yellow and red curves form the mirror. During the Bump, both of these curves disappear.

Fig. 2

The difference between L_{min} and L_{max} (the span), for T_{eff} and luminosity, are dependent on mass and metallicity.
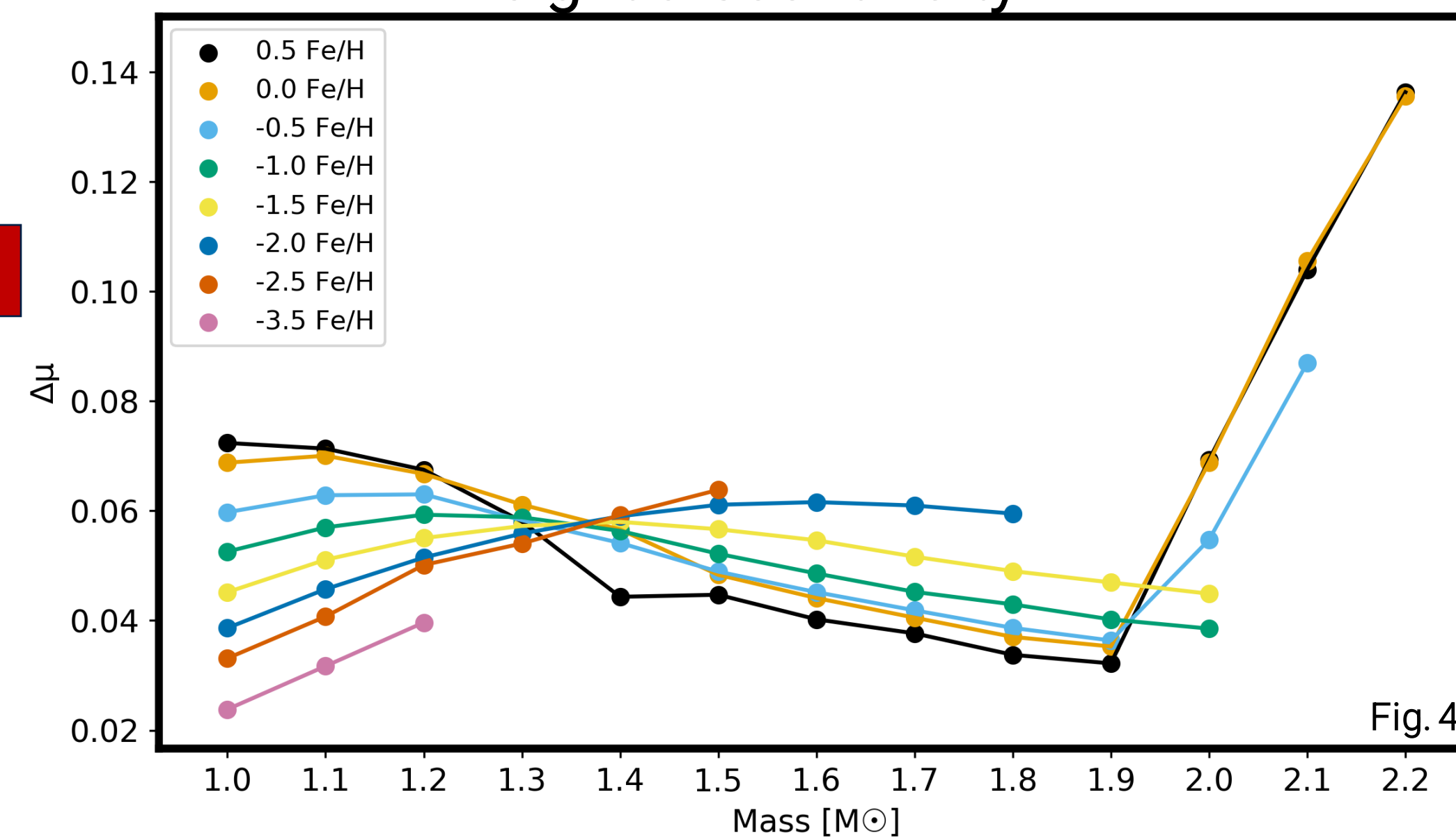

Fig. 3a

Fig. 3b

How do Mass and Metallicity affect the RGB Bump?

We are looking for an underlying mechanism that can explain the effects of mass and metallicity on the RGB Bump.

Similar dependencies are seen in the step size of the mean-molecular weight discontinuity.

Fig. 4

A particular deviation in behavior occurs for stars of [Fe/H] ≥ -0.5, seen as a sharp change in the span and step size that exists at 1.9 $M_\odot$.

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