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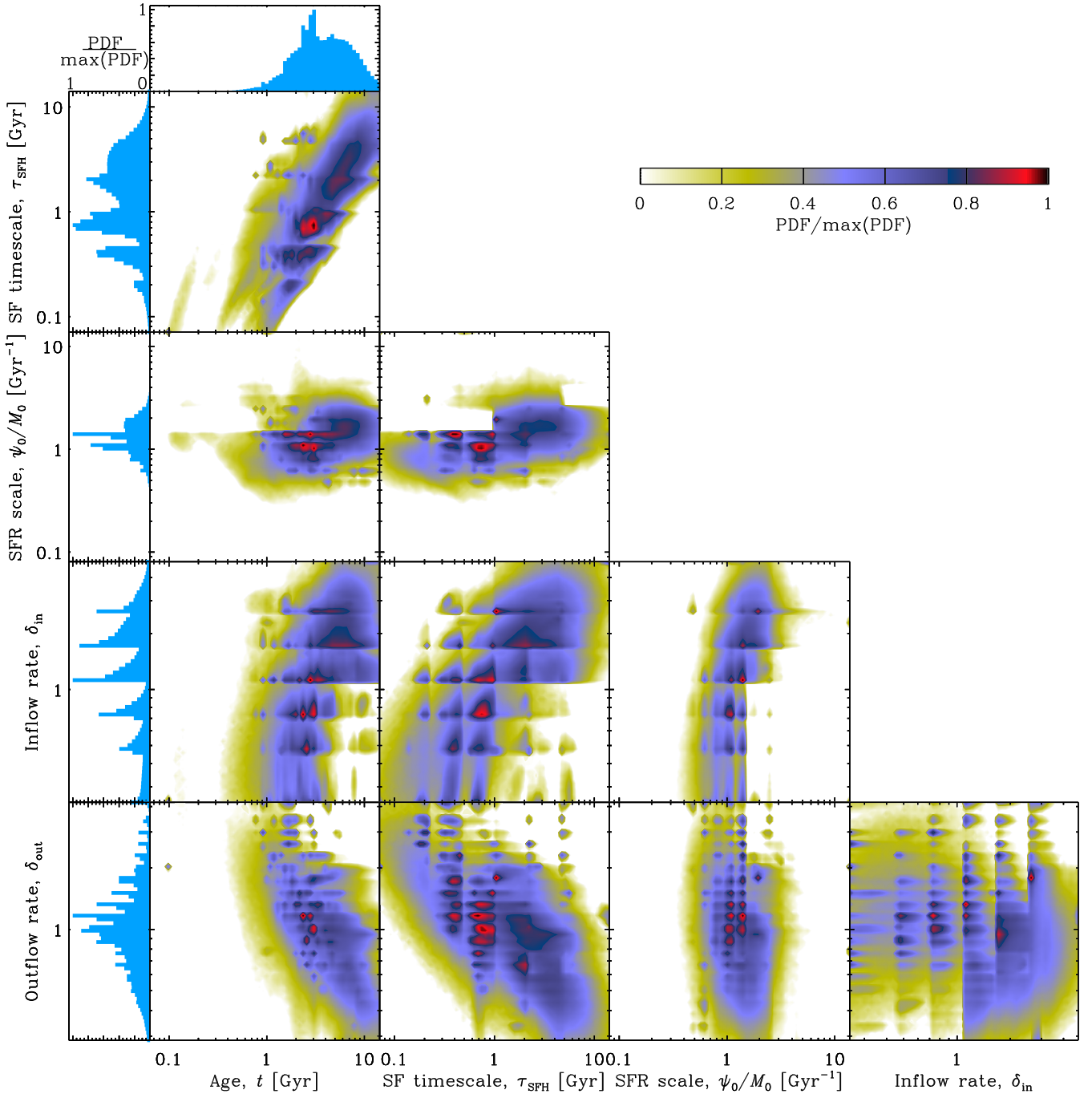


Fig. 17. Posterior distribution of the SFH-related parameters. The plotting conventions are identical to Fig. 16. The displayed PDF is the distribution of the individual parameters of every galaxy, marginalizing over the dust evolution tuning parameters.

explore the sensitivity of our results assuming a [Chabrier \(2003\)](#) IMF. To be consistent, we first need to correct our estimated M_\star and SFR. According to [Madau & Dickinson \(2014, Sect. 3.1\)](#), we need to multiply SFR by 0.63 and M_\star by 0.61. We have then generated another grid of models similar to Table 6 with the [Chabrier \(2003\)](#) IMF, and performed the fitting process of Sect. 5.2.3. The full results are given in Appendix G. The upshot is that the inferred tuning parameters are roughly consistent with our estimates in Sect. 5.3.1: $\langle Y_{\text{SN}} \rangle \approx 2.5^{+0.2}_{-0.3} \times 10^{-2} M_\odot/\text{SN}$; $\epsilon_{\text{grow}} \approx 4485^{+11}_{-17}$; $m_{\text{gas}}^{\text{dest}} \approx 1289^{+6}_{-7} M_\odot/\text{SN}$. The differences can be explained by the different relative contribution from LIMSS. The only value that differs sensibly is $\langle Y_{\text{SN}} \rangle$. This difference is

however simply due to the fact the low-metallicity dustiness is overshoot by the model with the [Chabrier \(2003\)](#) IMF.

This agreement was expected. The reason is that, to first order, LIMSS represent a dead weight in both the SED and the chemical enrichment. The total power emitted by stellar populations is dominated by massive stars. This is the reason why SFR and M_\star estimates are so dependent on the IMF assumption. From the dust evolution modeling, the elemental and stardust enrichment is also dominated by massive stars. The only quantity for which we infer a different value is logically ψ_0 . It is $\approx 50\%$ higher to generate the same number of massive stars, compensating for the 0.63 correction factor.