I would prefer not to work with a non-zero minimum value of Y_{min}, though. The Texas code could work with $Y_{min} = 0.0$ because it didn't use a dk_{fac} factor. But the Texas code would then take 2879 timesteps per run. So I put in the $Y/\dot{Y}$ ratio of the Texas code the following dk_{fac} factor:

$$
\begin{aligned}
dk_{fac} &= \left(1 + \left(-\frac{\log Y_n(i)}{dt_{fac}}\right)^2\right) \\
dt_{fac} &= -\frac{\log 10^{-99}}{\frac{dk_{max}}{dk} - 1}
\end{aligned}
$$

modelled after the dk_{fac} factor used in the Thomas et al code. This factor reduces the number of timesteps down to 1320, as shown in Figure (7) above.

Table (2) below shows the number of timesteps both the Thomas et al code and the Texas code use for all values of Y_{min}, and with and without a 0.1 factor and a dk_{fac} factor. This table illustrates the effects these parameters have on the timestep number just as the Figures do.