From (33), for required $Y_{B.}$, factors $= 1$

$$\left(\frac{60\,TeV}{v_R}\right)\left(\frac{3T_R}{v_R}\right)^2\left(\frac{2v_R}{M}\right)\left(\frac{10\,GeV}{\mu_S}\right)\left(\frac{100\,meV}{\Sigma m_\nu}\right)\left(\frac{g_S(T_D)}{80}\right)=1$$

$$\Rightarrow \frac{T_R^2}{\mu_S}\cdot\frac{1}{v_R M}\cdot\underbrace{\frac{60\,TeV\cdot 9\cdot 2\cdot 10\,GeV}{6\times10^4\times 18\times 10\,GeV^2}}\left(\frac{100\,meV}{\Sigma m_\nu}\right)\left(\frac{g_S}{80}\right)=1$$

$$=1.3\times10^7\,GeV^2$$

$$\frac{T_R^2}{\mu_S}\cdot\frac{1}{v_R M}\cdot(1.3\times10^7\,GeV^2)\cdot\left(\frac{100\,meV}{\Sigma m_{\nu,i}}\right)\left(\frac{g_S(T_D)}{80}\right)=1 \quad (1)$$

$$\Delta S=\frac{A}{2\mu_S^3}(\delta h)^2 \xrightarrow[A/\mu_S\to\frac{1}{3}]{\delta h\to\frac{1}{4}T_R}\cdot\frac{1}{96}\cdot\frac{T_R^2}{\mu_S} \quad (2)$$

From (1), $\frac{T_R^2}{\mu_S}=M\cdot v_R^2\cdot\frac{1}{1.3\times10^7\,GeV^2}\left(\frac{\Sigma m_{\nu,i}}{100\,meV}\right)\left(\frac{80}{g_S(T_D)}\right)$

$$\Rightarrow \Delta S=\frac{1}{96}\frac{T_R^2}{\mu_S}\sim M\cdot v_R^2\cdot\frac{1}{10^9\,GeV^2}\left(\frac{\Sigma m_{\nu,i}}{100\,meV}\right)\left(\frac{80}{g_S(T_D)}\right)$$

$$<M$$

$$\Rightarrow v_R<\sqrt{10^9\,GeV^2}\cdot\sqrt{\left(\frac{100\,meV}{\Sigma m_{\nu,i}}\right)\left(\frac{g_S(T_D)}{80}\right)}$$

$$\approx\underbrace{3\times10^4\,GeV\cdot\sqrt{\ldots}}_{30\,TeV}$$