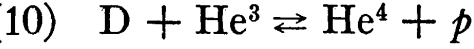


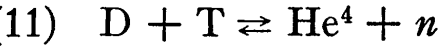
$$[\text{DD}]_\gamma = 24.1 \rho_b T_9^{-2/3} \exp(-4.26 T_9^{-1/3}) (T_9^{2/3} + 0.685 T_9 + 0.152 T_9^{4/3} + 0.265 T_9^{5/3})$$

$$\lambda_\gamma(\text{He}^4)_\text{D} = 4.50 \times 10^{10} [\text{DD}]_\gamma \rho_b^{-1} T_9^{3/2} \exp(-276.7 T_9^{-1})$$



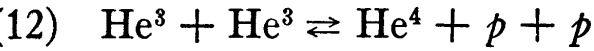
$$[\text{DHe}^3] = 2.60 \times 10^9 \rho_b T_9^{-3/2} \exp(-2.99 T_9^{-1})$$

$$[\text{He}^4 p] = 5.50 [\text{DHe}^3] \exp(-213.0 T_9^{-1})$$



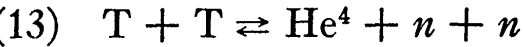
$$[\text{DT}] = 1.38 \times 10^9 \rho_b T_9^{-3/2} \exp(-0.745 T_9^{-1})$$

$$[\text{He}^4 n] = 5.50 [\text{DT}] \exp(-204.1 T_9^{-1})$$



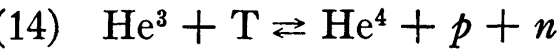
$$[\text{He}^3 \text{He}^3] = 1.19 \times 10^{10} \rho_b T_9^{-2/3} \exp(-12.25 T_9^{-1/3}) (1 + 0.0340 T_9^{1/3})$$

$$[\text{He}^4 p p] = 3.37 \times 10^{-10} [\text{He}^3 \text{He}^3] \rho_b T_9^{-3/2} \exp(-149.2 T_9^{-1})$$



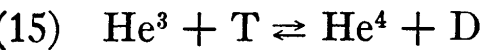
$$[\text{TT}] = 1.10 \times 10^9 \rho_b T_9^{-2/3} \exp(-4.87 T_9^{-1/3}) (1 + 0.0857 T_9^{1/3})$$

$$[\text{He}^4 n n] = 3.37 \times 10^{-10} [\text{TT}] \rho_b T_9^{-3/2} \exp(-131.5 T_9^{-1})$$



$$[\text{He}^3 \text{T}]_{pn} = 5.60 \times 10^9 \rho_b T_9^{-2/3} \exp(-7.72 T_9^{-1/3}) (1 + 0.0540 T_9^{1/3})$$

$$[\text{He}^4 p n] = 3.37 \times 10^{-10} [\text{He}^3 \text{T}]_{pn} \rho_b T_9^{-3/2} \exp(-140.4 T_9^{-1})$$



$$[\text{He}^3 \text{T}]_\text{D} = 3.88 \times 10^9 \rho_b T_9^{-2/3} \exp(-7.72 T_9^{-1/3}) (1 + 0.0540 T_9^{1/3})$$

$$[\text{He}^4 \text{D}] = 1.59 [\text{He}^3 \text{T}]_\text{D} \exp(-166.2 T_9^{-1})$$