

## Thermonuclear Burning Stages(D. Arnett,"Supernovae and Nucleosynthesis")

fuel	T( $10^9$ K)	ashes	cooling
$^1\text{H}$	0.02	$^4\text{He}, ^{14}\text{N}$	photons
$^4\text{He}$	0.2	$^{12}\text{C}, ^{16}\text{O}, ^{22}\text{Ne}$	photons
$^{12}\text{C}$	0.8	$^{20}\text{Ne}, ^{24}\text{Mg}, ^{16}\text{O}, ^{23}\text{Na}, ^{25,26}\text{Mg}$	neutrinos
$^{20}\text{Ne}$	1.5	$^{16}\text{O}, ^{24}\text{Mg}, ^{28}\text{Si}, \dots$	neutrinos
$^{16}\text{O}$	2	$^{28}\text{Si}, ^{32}\text{S}, \dots$	neutrinos
$^{28}\text{Si}$	3.5	$^{56}\text{Ni}$ , A~56 nuclei	neutrinos
$^{56}\text{Ni}$	6~10	n, p, $^4\text{He}$ , s,r,p processes	neutrinos
A~56	Depends on density	photodisintegration, neutronization	
Super nova		Heavy elements up to uranium	