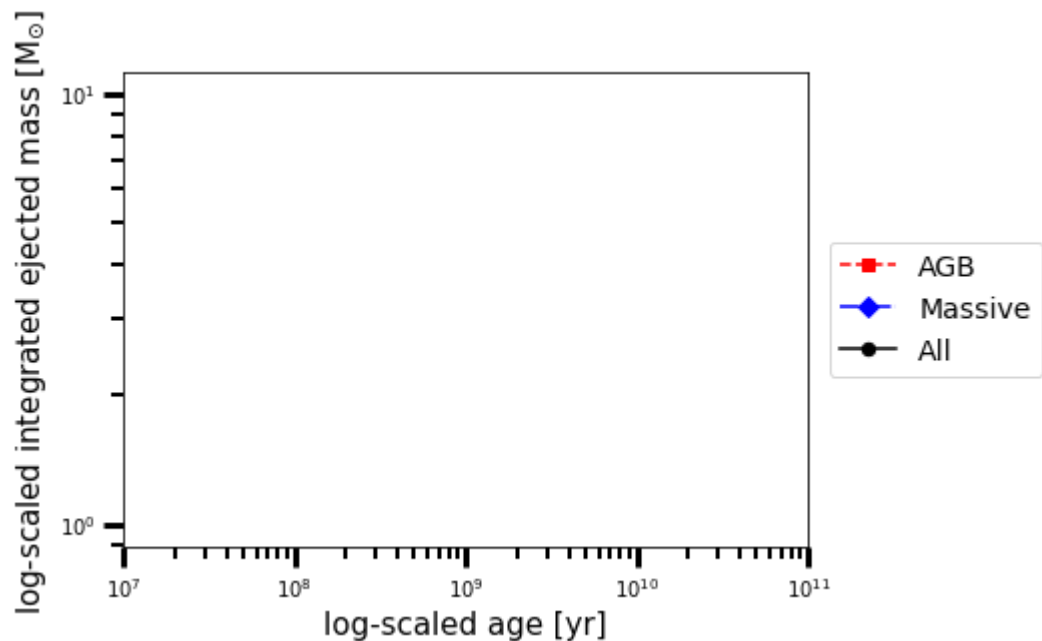


```
In [7]: from NuPyCEE import sygma as s
        from NuPyCEE import omega as o
        import matplotlib.pyplot as plt
```

```
In [3]: s1=s.sygma(mgal=1e11,dt=1e7,tend=1e11,imf_type='kroupa',imf_bdys=[1,30],
s1.plot_totmasses(source='agb')
s1.plot_totmasses(source='massive')
s1.plot_totmasses(source='all')
```

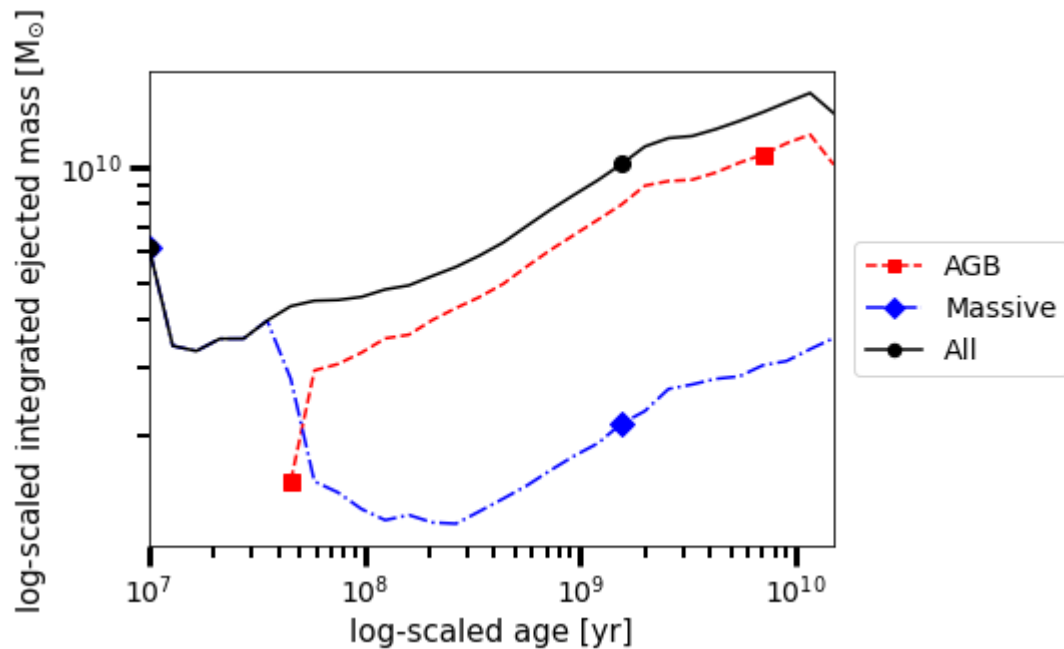
Error - tend must be less than or equal to 1.5e10 years.



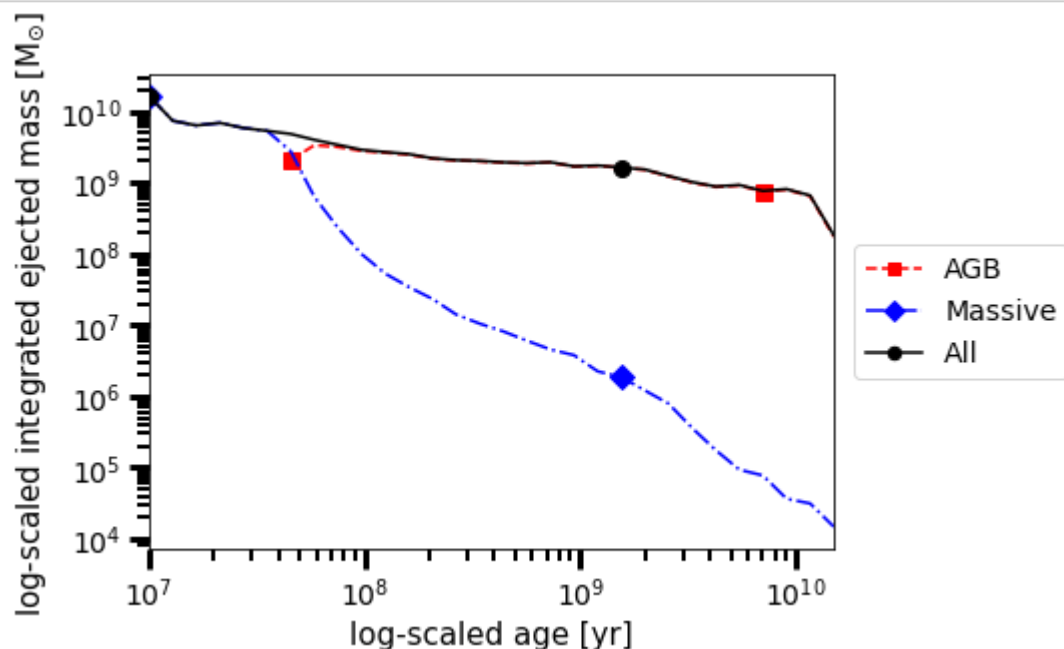
```
In [4]: s2=s.sygma(mgal=1e11,dt=1e7,tend=1.5e10,imf_type='kroupa',imf_bdys=[1,30])
s2.plot_totmasses(source='agb')
s2.plot_totmasses(source='massive')
s2.plot_totmasses(source='all')
```

SYGMA run in progress..

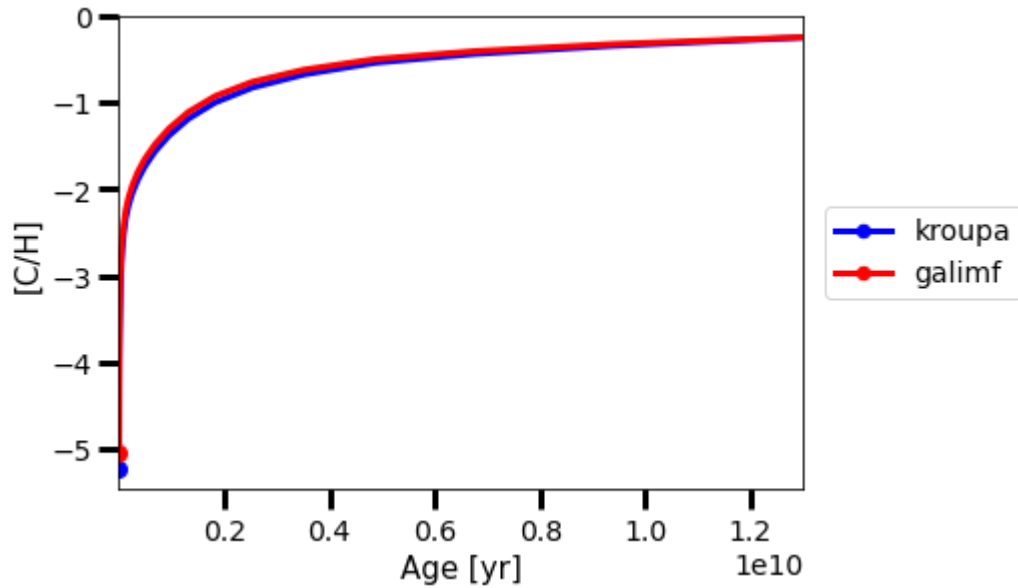
SYGMA run completed - Run time: 0.56s



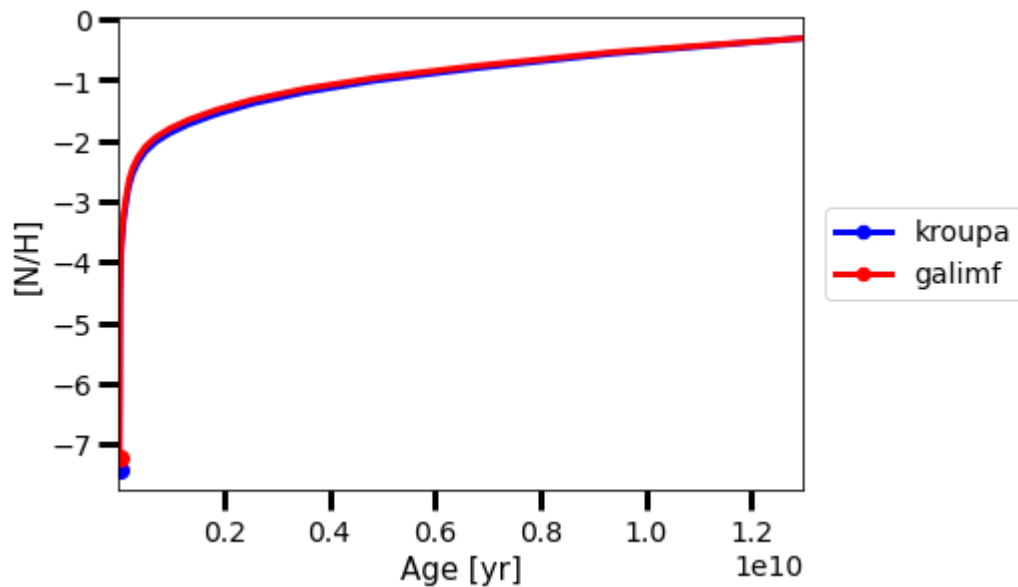
```
In [5]: s3=s.sygma(mgal=1e11,dt=1e7,tend=1.5e10,imf_type='galimf',imf_bdys=[1,30])
s3.plot_totmasses(source='agb')
s3.plot_totmasses(source='massive')
s3.plot_totmasses(source='all')
```



```
In [6]: o1=o.omega(in_out_control=True,cte_sfr=1.0,inflow_rate=1.0,imf_type='kroupa')
o2=o.omega(in_out_control=True,cte_sfr=1.0,inflow_rate=1.0,imf_type='galimf')
o1.plot_spectro(xaxis='age',yaxis='[C/H]',color='b',label='kroupa')
o2.plot_spectro(xaxis='age',yaxis='[C/H]',color='r',label='galimf')
```



```
In [13]: o1.plot_spectro(xaxis='age',yaxis='[N/H]',color='b',label='kroupa')
o2.plot_spectro(xaxis='age',yaxis='[N/H]',color='r',label='galimf')
```



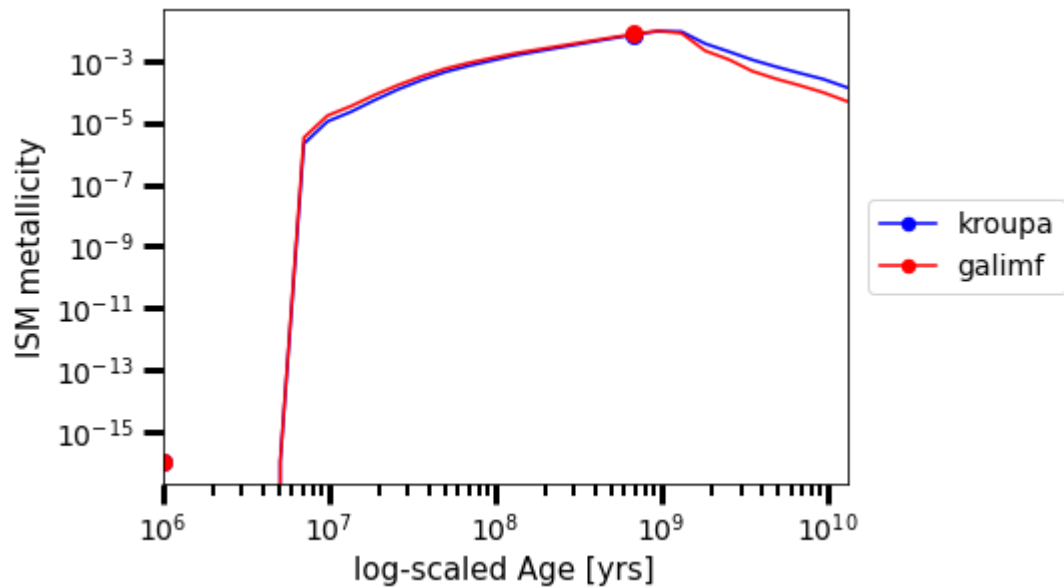
```
In [14]: o3=o.omega(mgal=1e9,in_out_control=True,cte_sfr=1.0,inflow_rate=1.0,imf_
o4=o.omega(mgal=1e9,in_out_control=True,cte_sfr=1.0,inflow_rate=1.0,imf_

if you see this,this means a new call of galimf
if you see this,this means a new call of galimf
if you see this,this means a new call of galimf

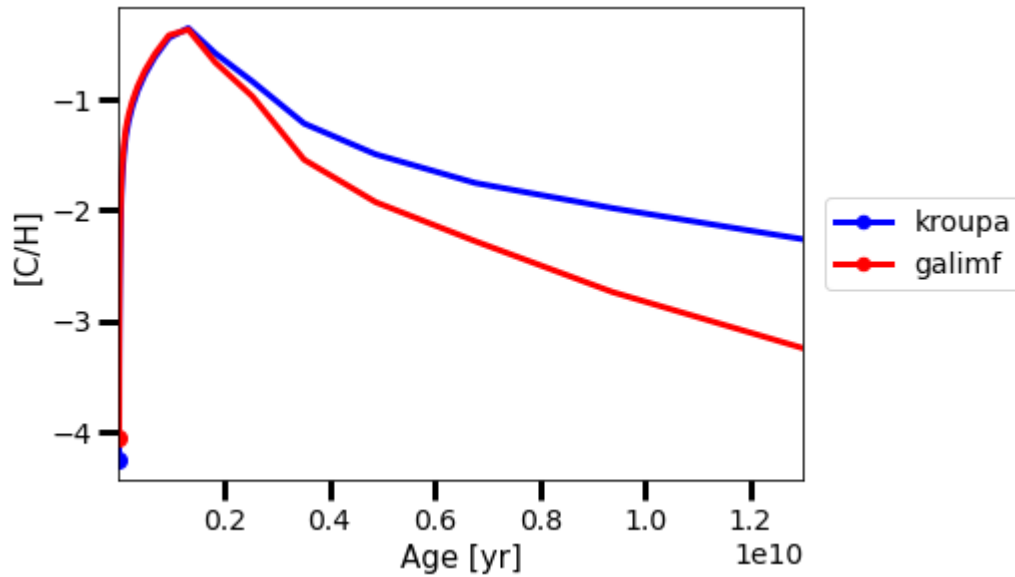
if you see this,this means a new call of galimf
if you see this,this means a new call of galimf
if you see this,this means a new call of galimf
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if you see this,this means a new call of galimf
if you see this,this means a new call of galimf
if you see this,this means a new call of galimf
if you see this,this means a new call of galimf
OMEGA run completed - Run time: 1180.02s
```

```
In [17]: o3.plot_massfrac(xaxis='age',yaxis='Z',color='b',label='kroupa')
o4.plot_massfrac(xaxis='age',yaxis='Z',color='r',label='galimf')
```



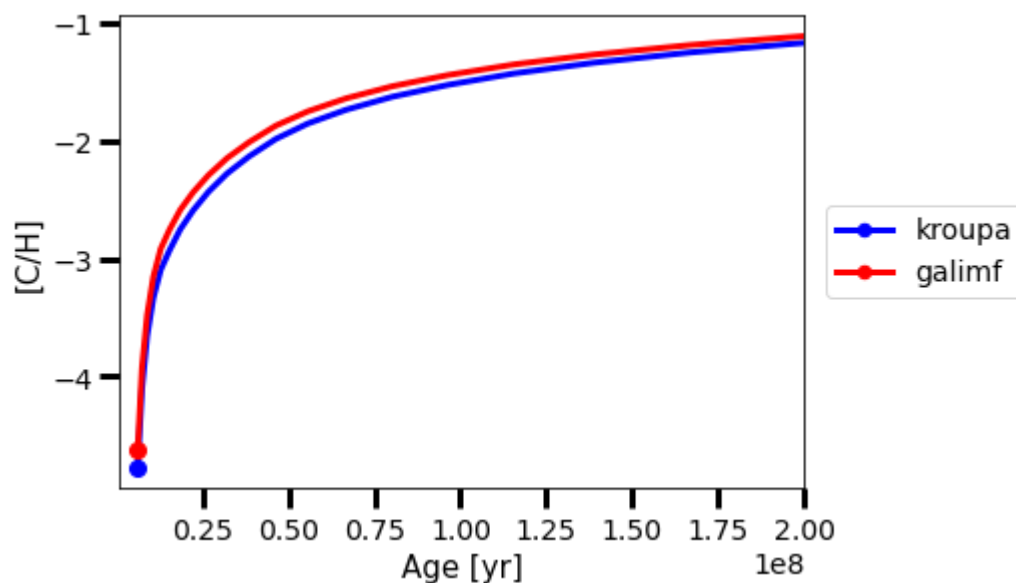
```
In [18]: o3.plot_spectro(xaxis='age',yaxis='[C/H]',color='b',label='kroupa')
         o4.plot_spectro(xaxis='age',yaxis='[C/H]',color='r',label='galimf')
```



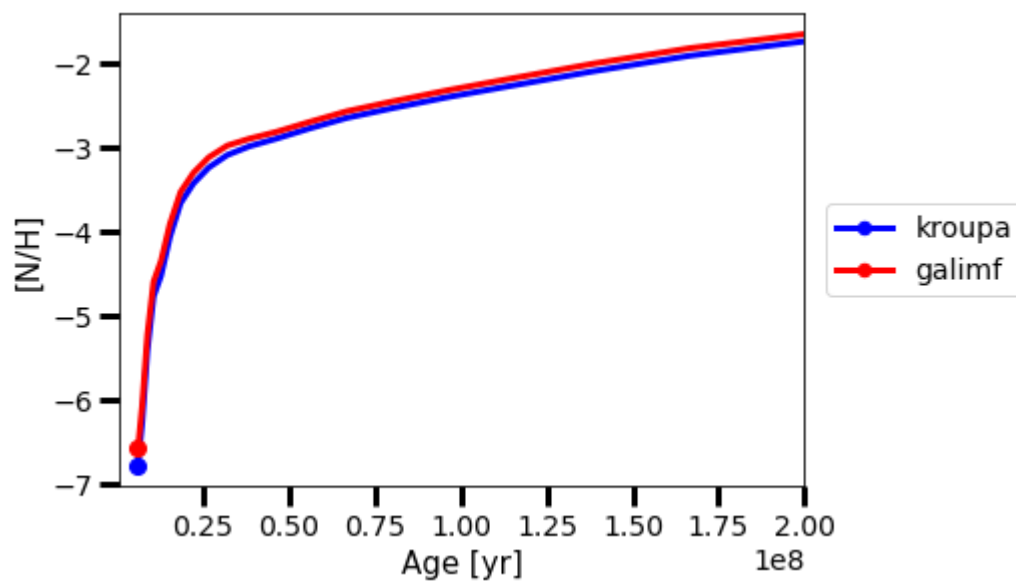
```
In [19]: o5=o.omega(mgal=1e9,in_out_control=True,cte_sfr=1.0,inflow_rate=1.0,imf_
o6=o.omega(mgal=1e9,in_out_control=True,cte_sfr=1.0,inflow_rate=1.0,imf
```

[illegible]

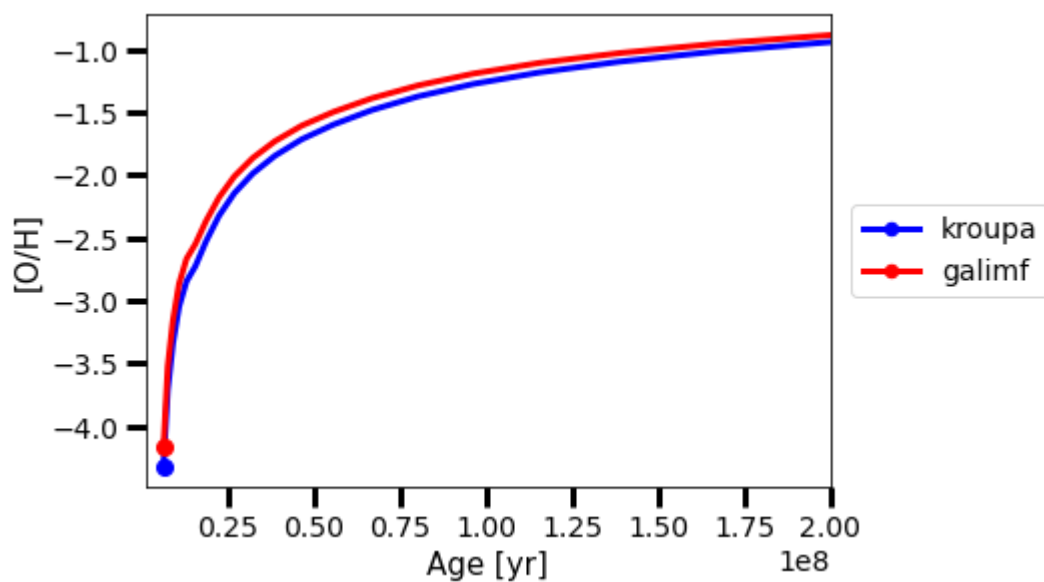
```
In [20]: o5.plot_spectro(xaxis='age',yaxis='[C/H]',color='b',label='kroupa')
o6.plot_spectro(xaxis='age',yaxis='[C/H]',color='r',label='galimf')
```



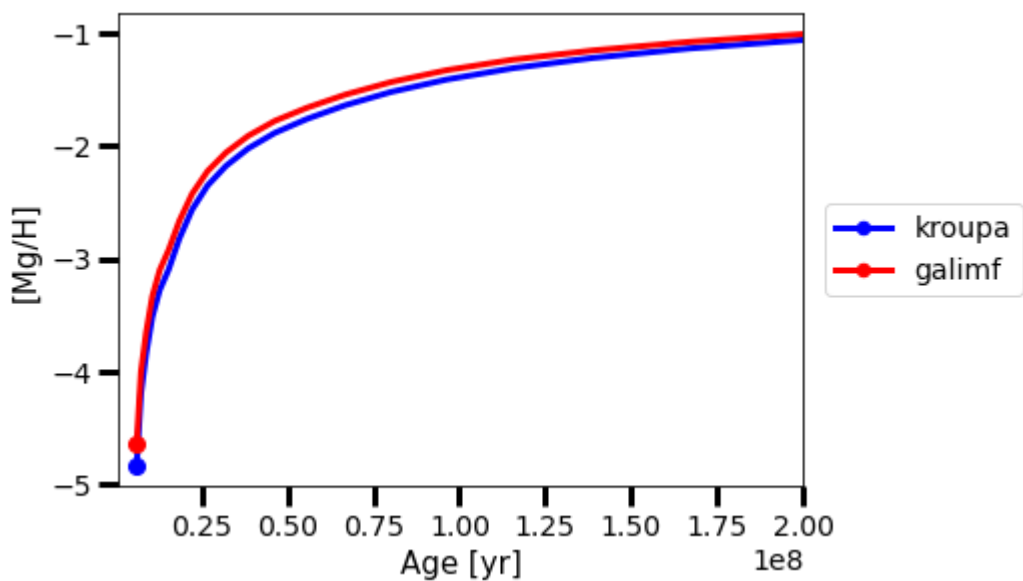
```
In [21]: o5.plot_spectro(xaxis='age',yaxis='[N/H]',color='b',label='kroupa')
o6.plot_spectro(xaxis='age',yaxis='[N/H]',color='r',label='galimf')
```



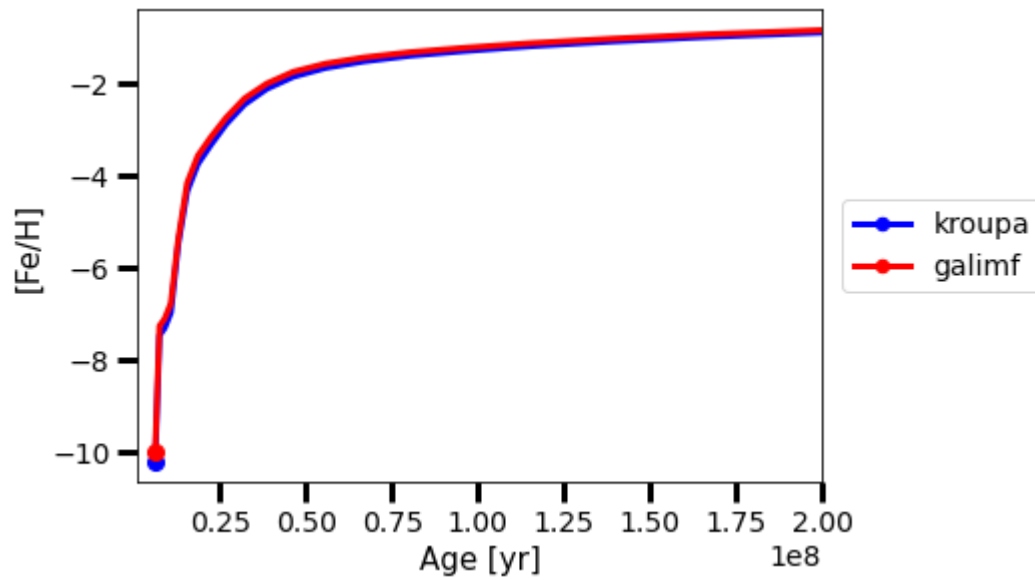
```
In [22]: o5.plot_spectro(xaxis='age',yaxis='[O/H]',color='b',label='kroupa')
o6.plot_spectro(xaxis='age',yaxis='[O/H]',color='r',label='galimf')
```



```
In [23]: o5.plot_spectro(xaxis='age',yaxis='[Mg/H]',color='b',label='kroupa')
o6.plot_spectro(xaxis='age',yaxis='[Mg/H]',color='r',label='galimf')
```



```
In [24]: o5.plot_spectro(xaxis='age',yaxis='[Fe/H]',color='b',label='kroupa')  
o6.plot_spectro(xaxis='age',yaxis='[Fe/H]',color='r',label='galimf')
```



```
In [ ]:
```