

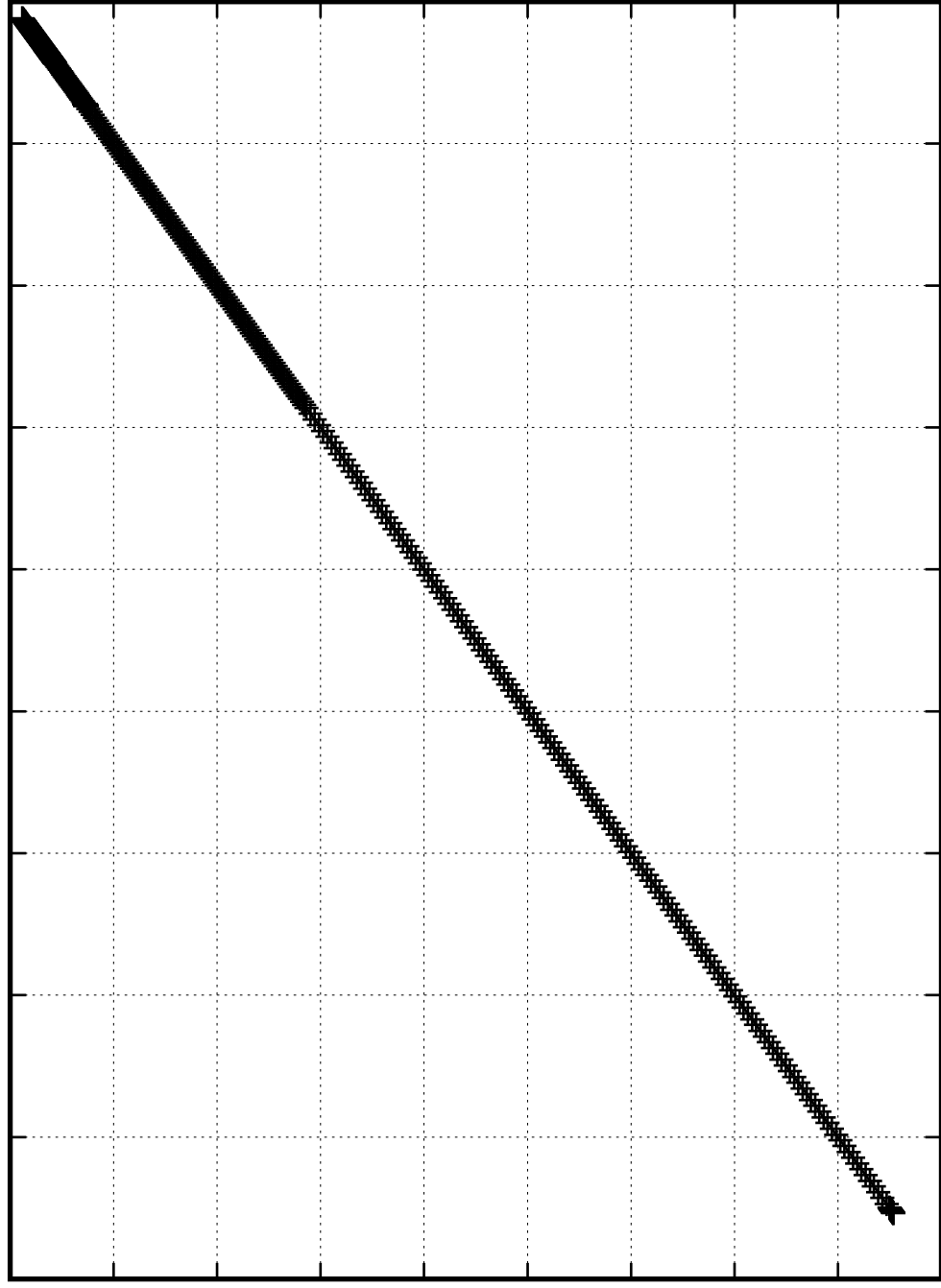
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

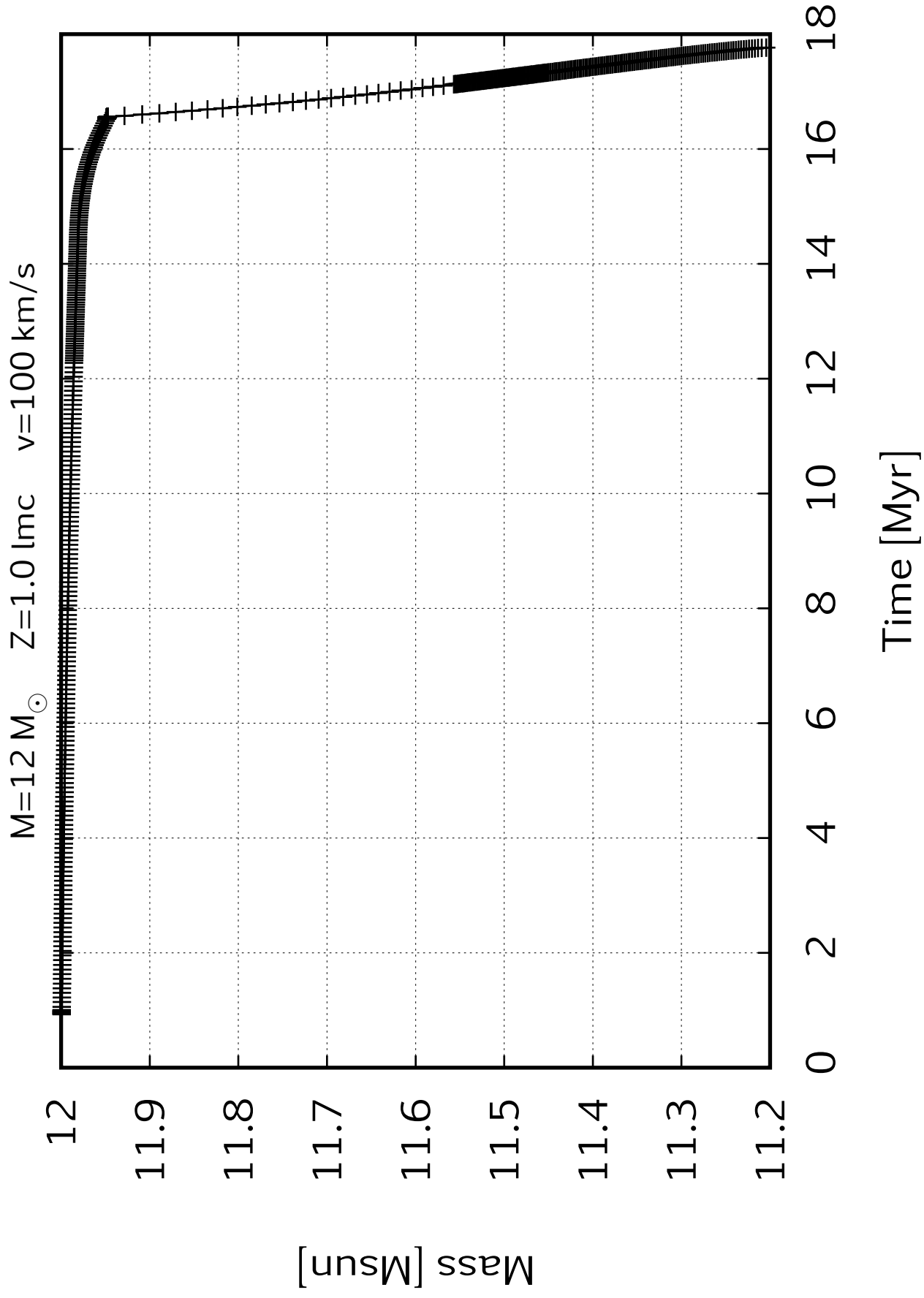
$t$  [yr]

$1.8 \times 10^7$   
 $1.6 \times 10^7$   
 $1.4 \times 10^7$   
 $1.2 \times 10^7$   
 $1 \times 10^7$   
 $8 \times 10^6$   
 $6 \times 10^6$   
 $4 \times 10^6$   
 $2 \times 10^6$   
0

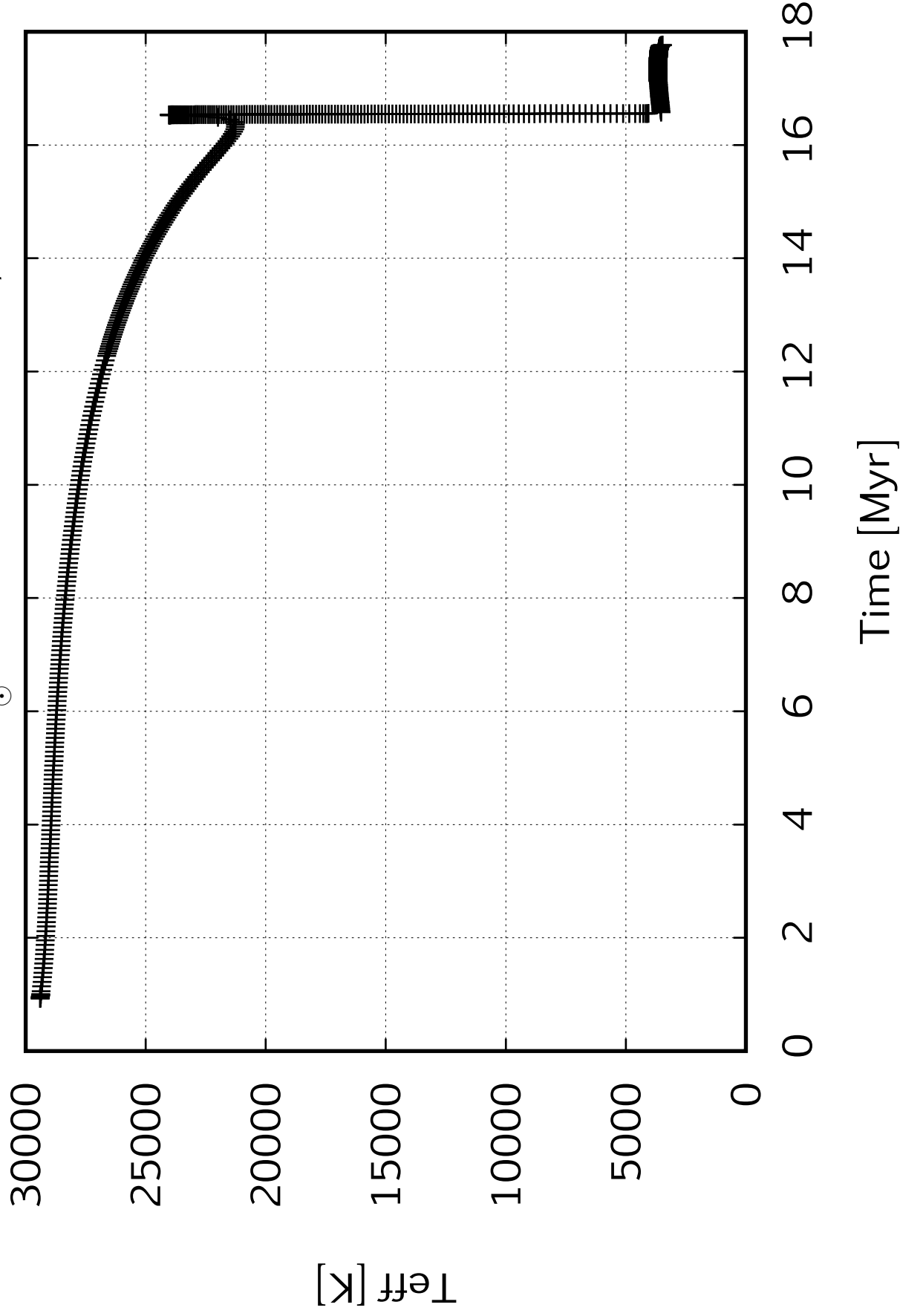
0   2   4   6   8   10   12   14   16   18

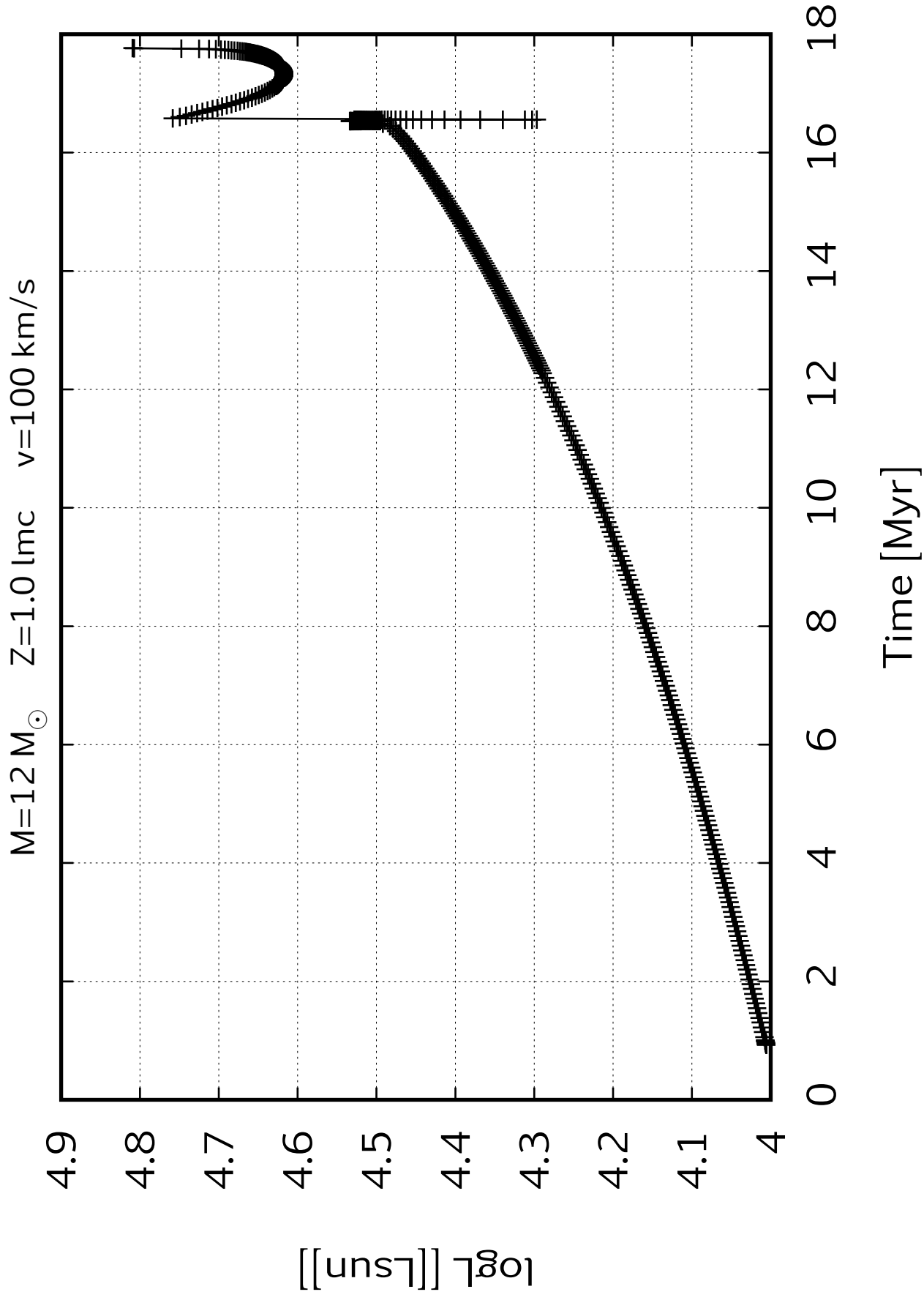
Time [Myr]

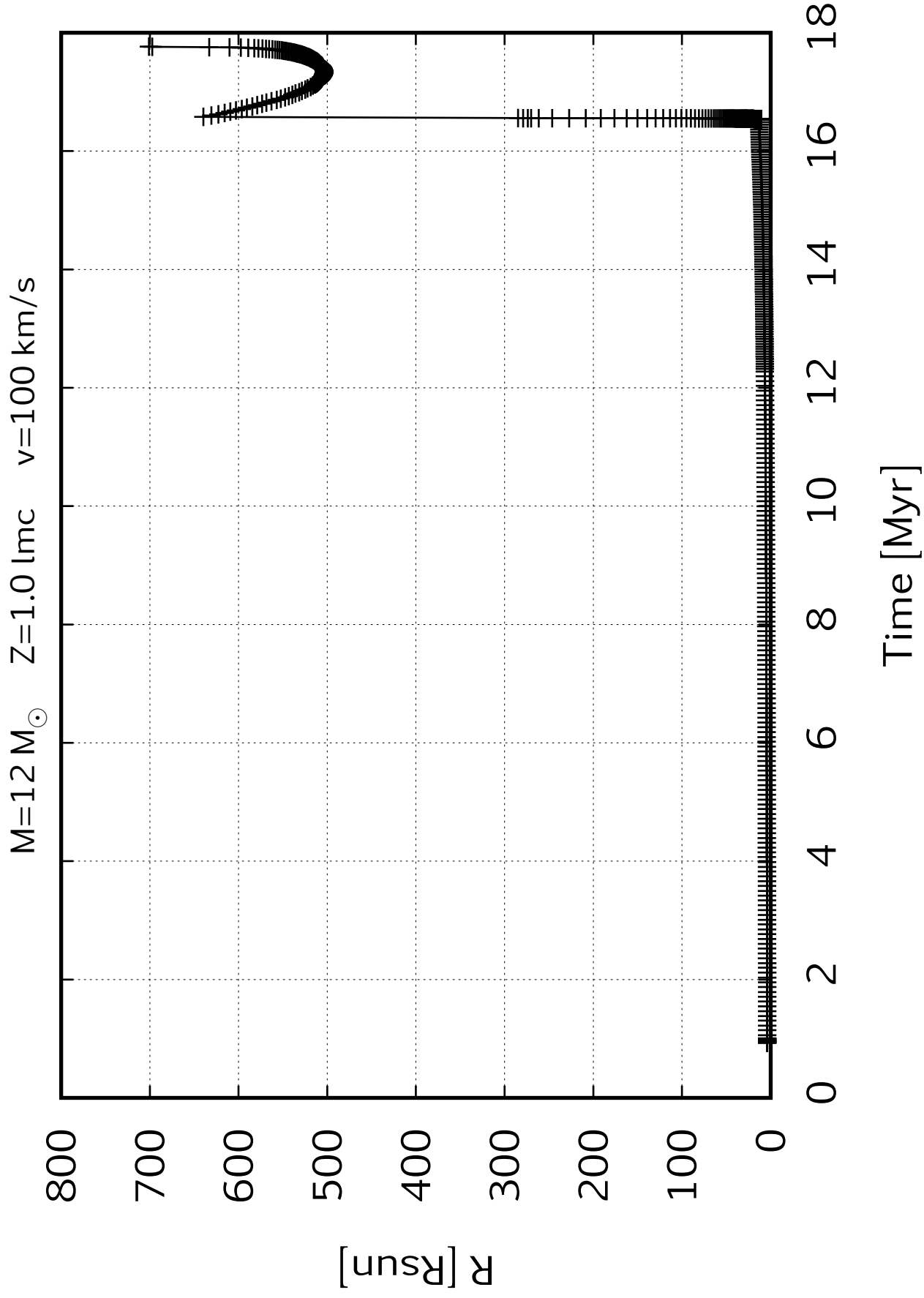


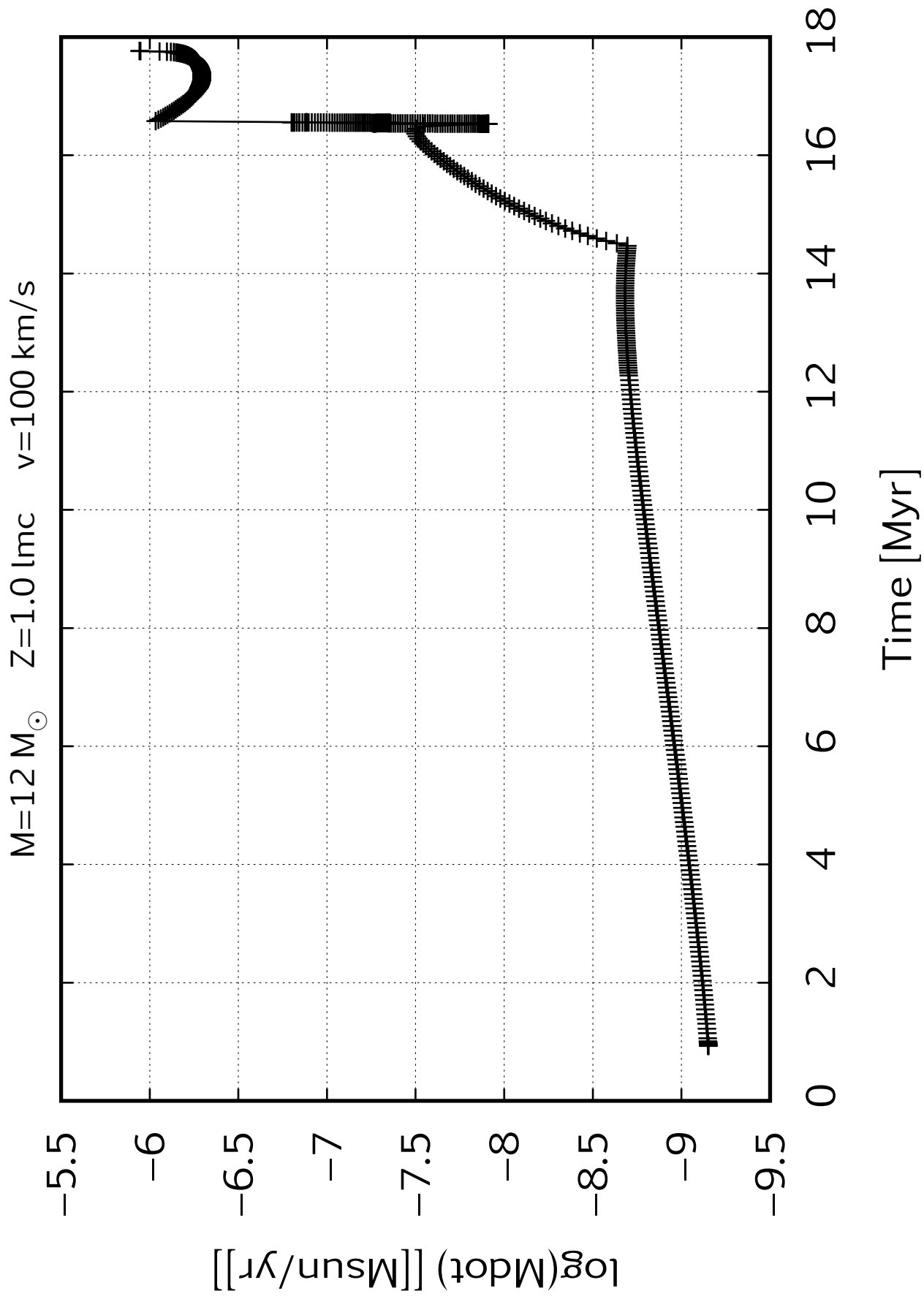


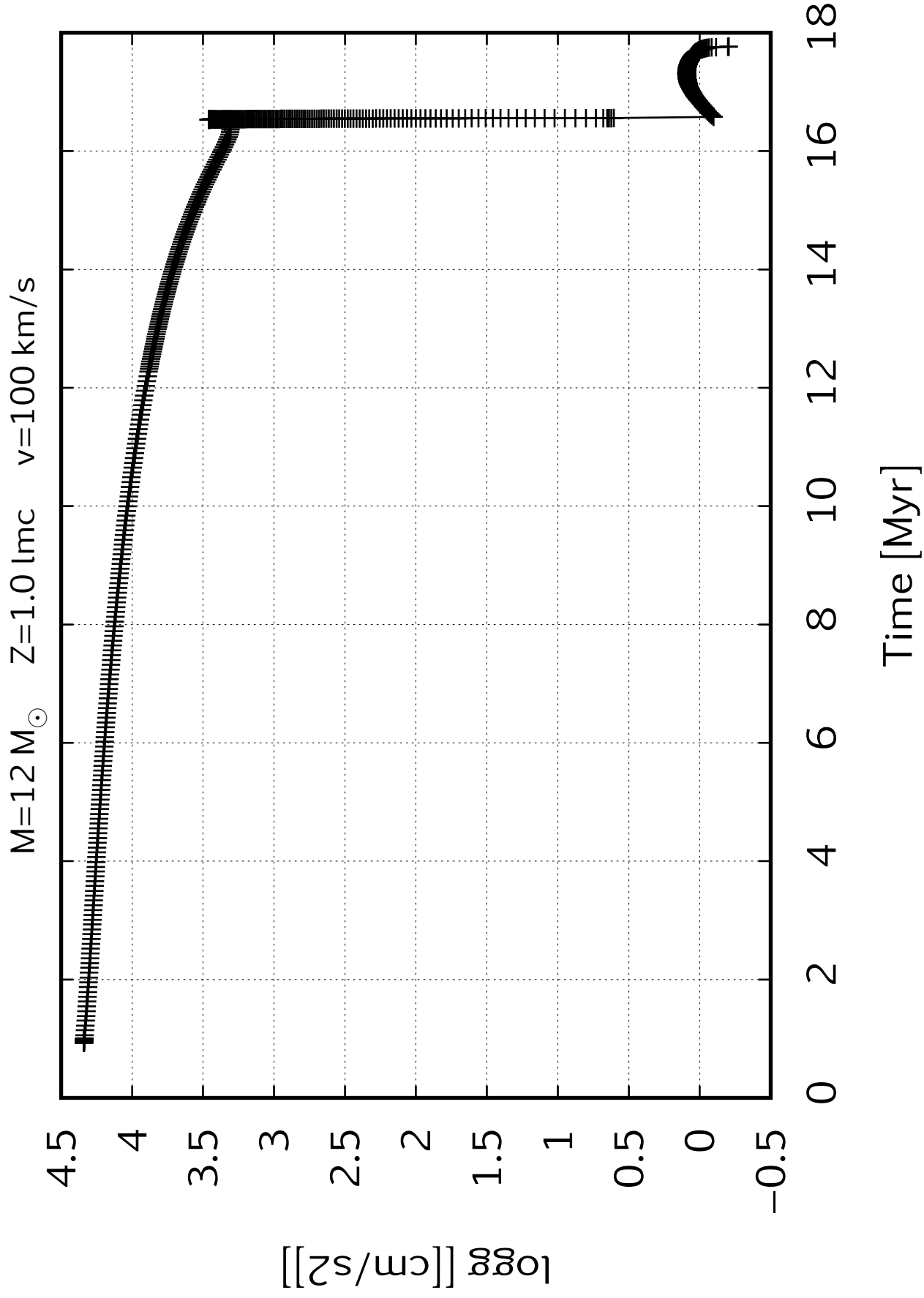
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



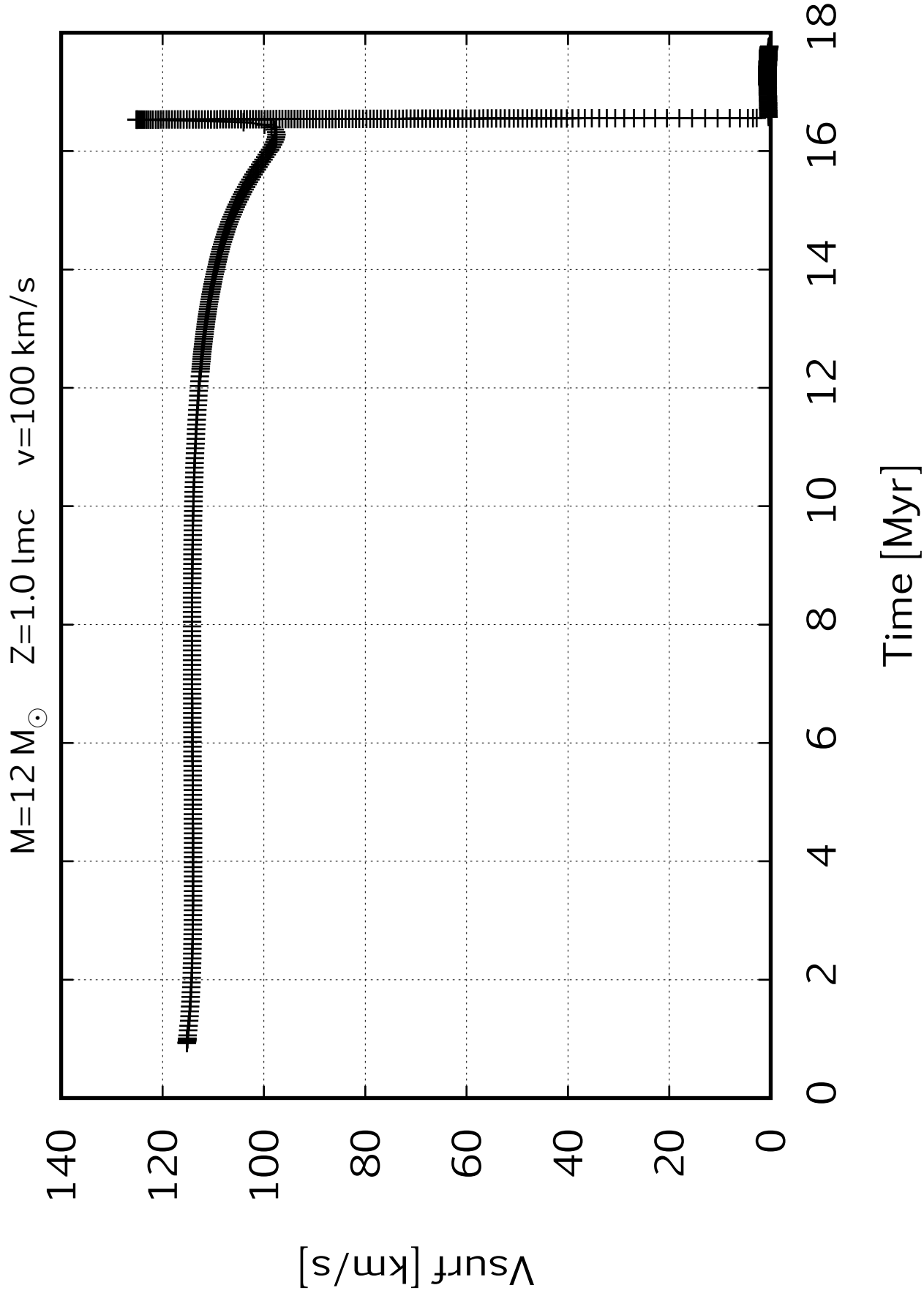


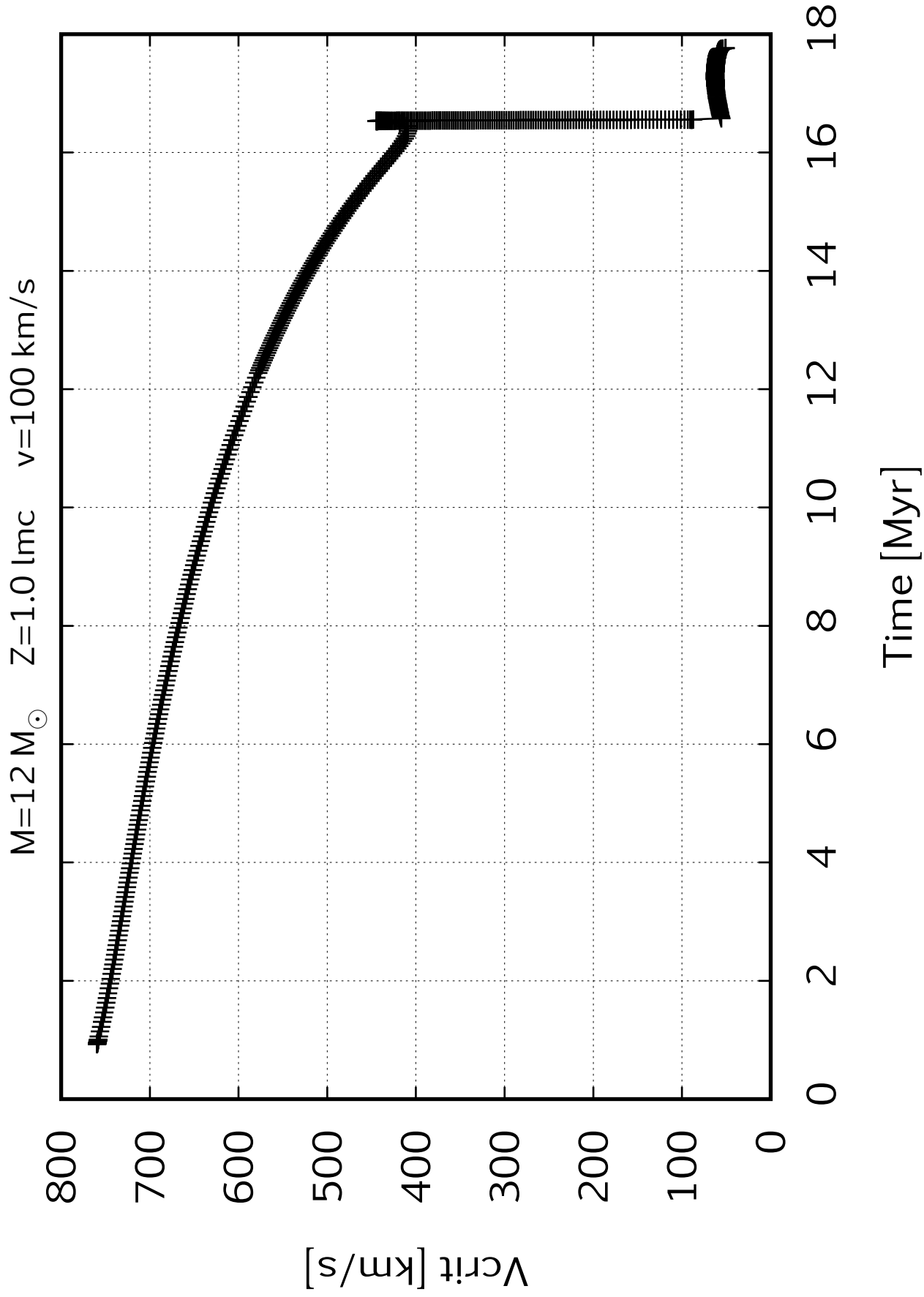




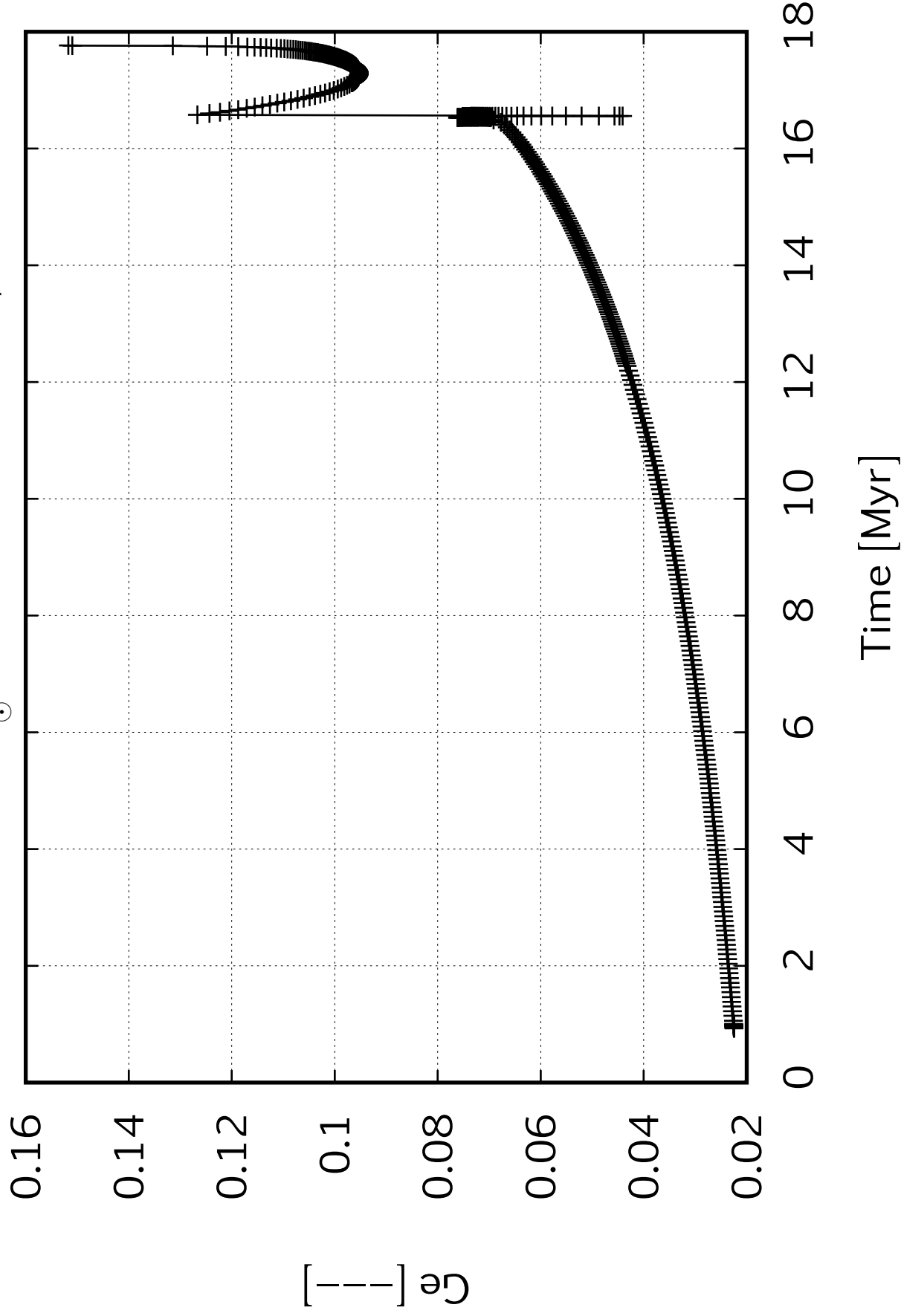


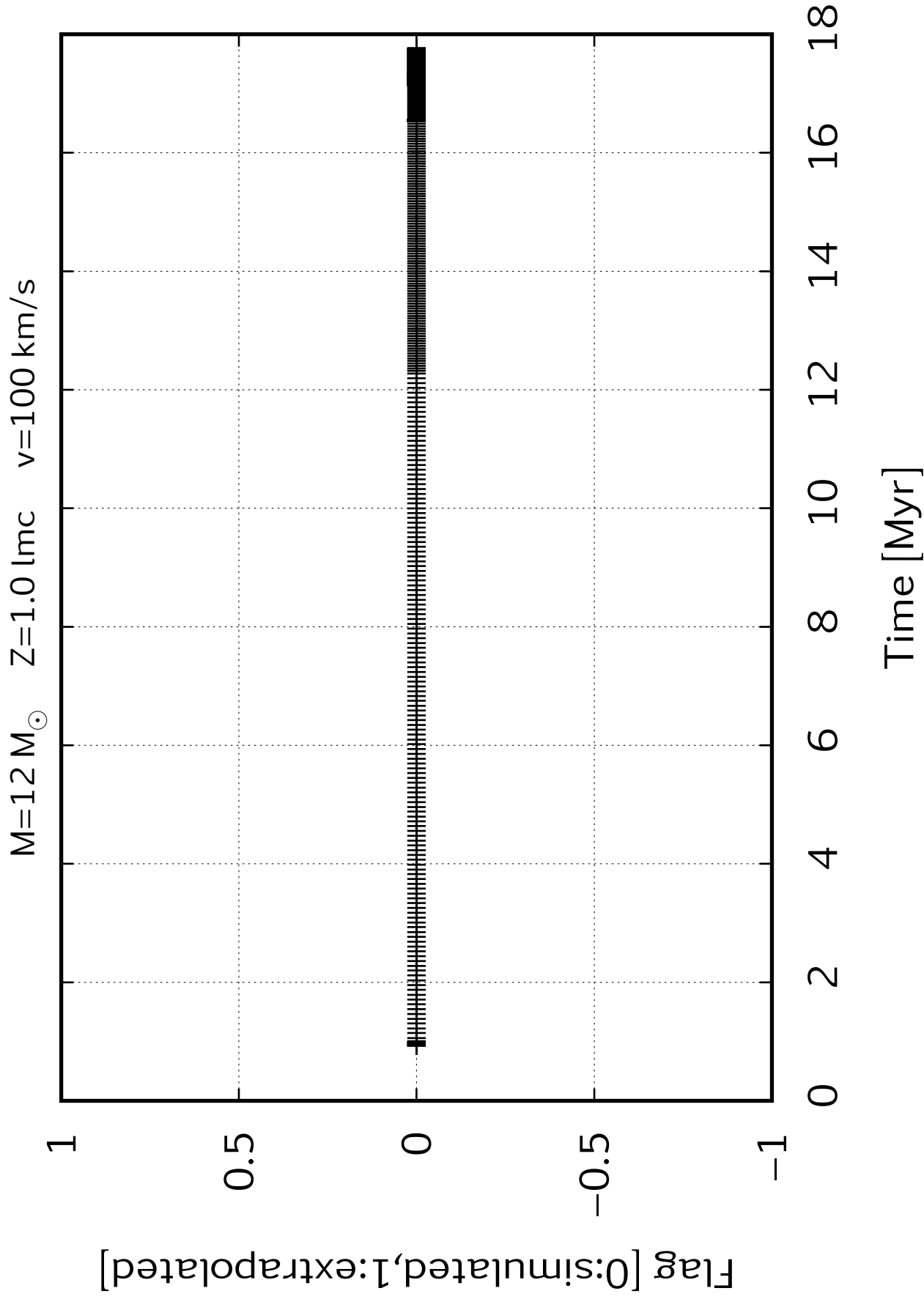






$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s





$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

12.15

12.1

12.05

12

11.95

11.9

11.85

$[\text{---}] (\text{H})$  eps(H)

0

2

4

6

8

10

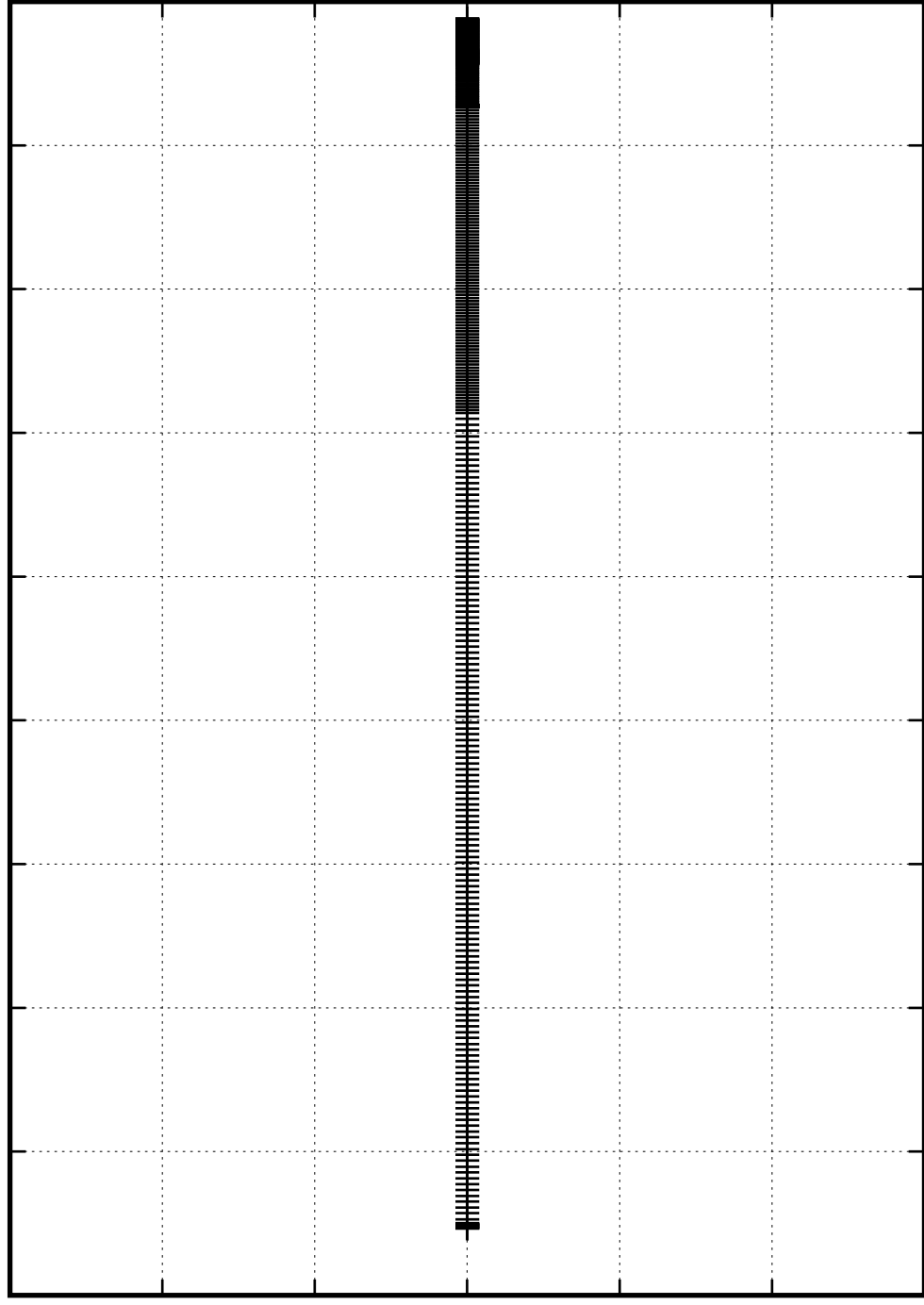
12

14

16

18

Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

10.98

10.975

10.97

10.965

10.96

10.955

10.95

10.945

10.94

10.935

$[\text{---}] (\text{He})$   
eps

0

2

4

6

8

10

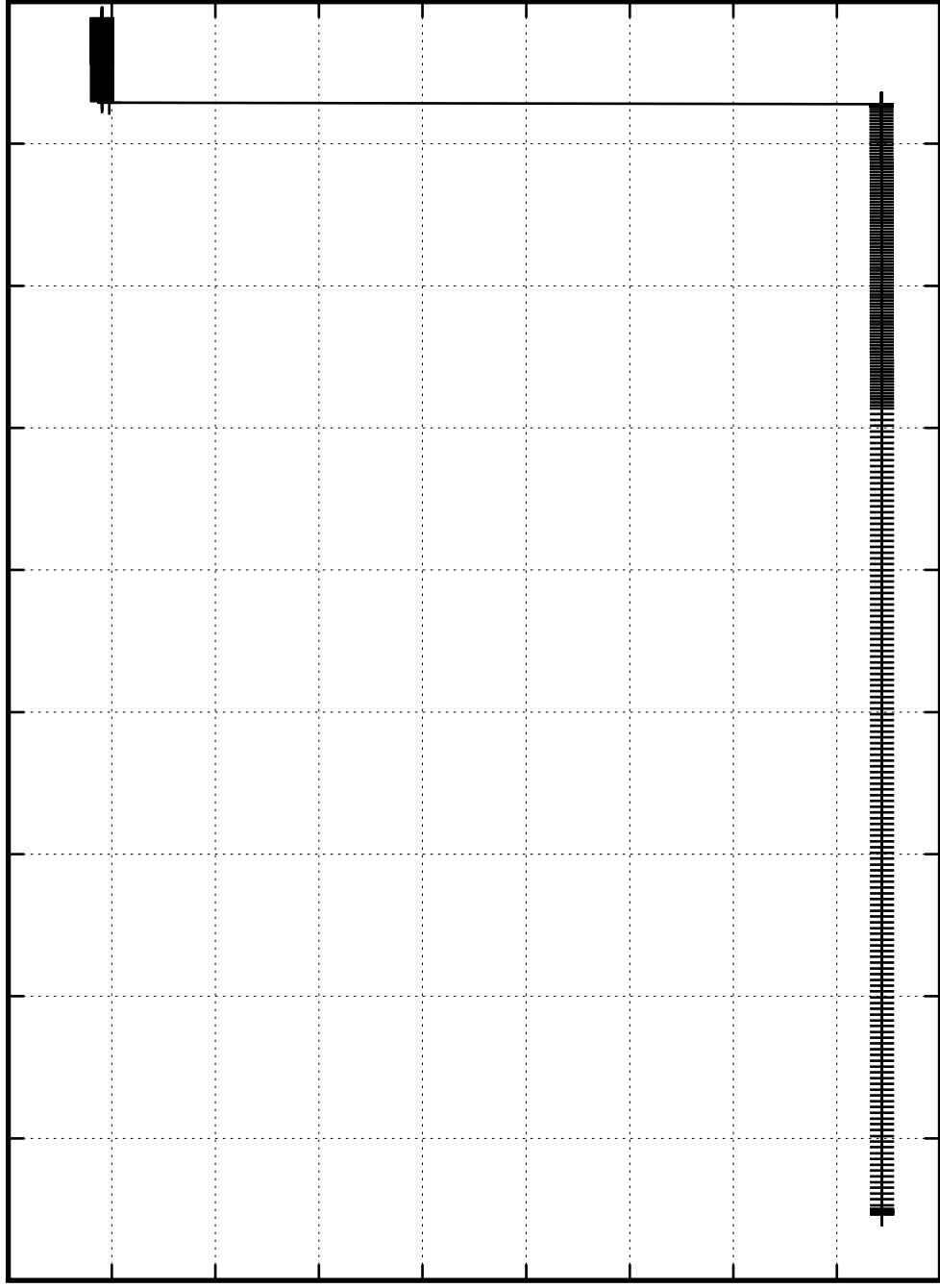
12

14

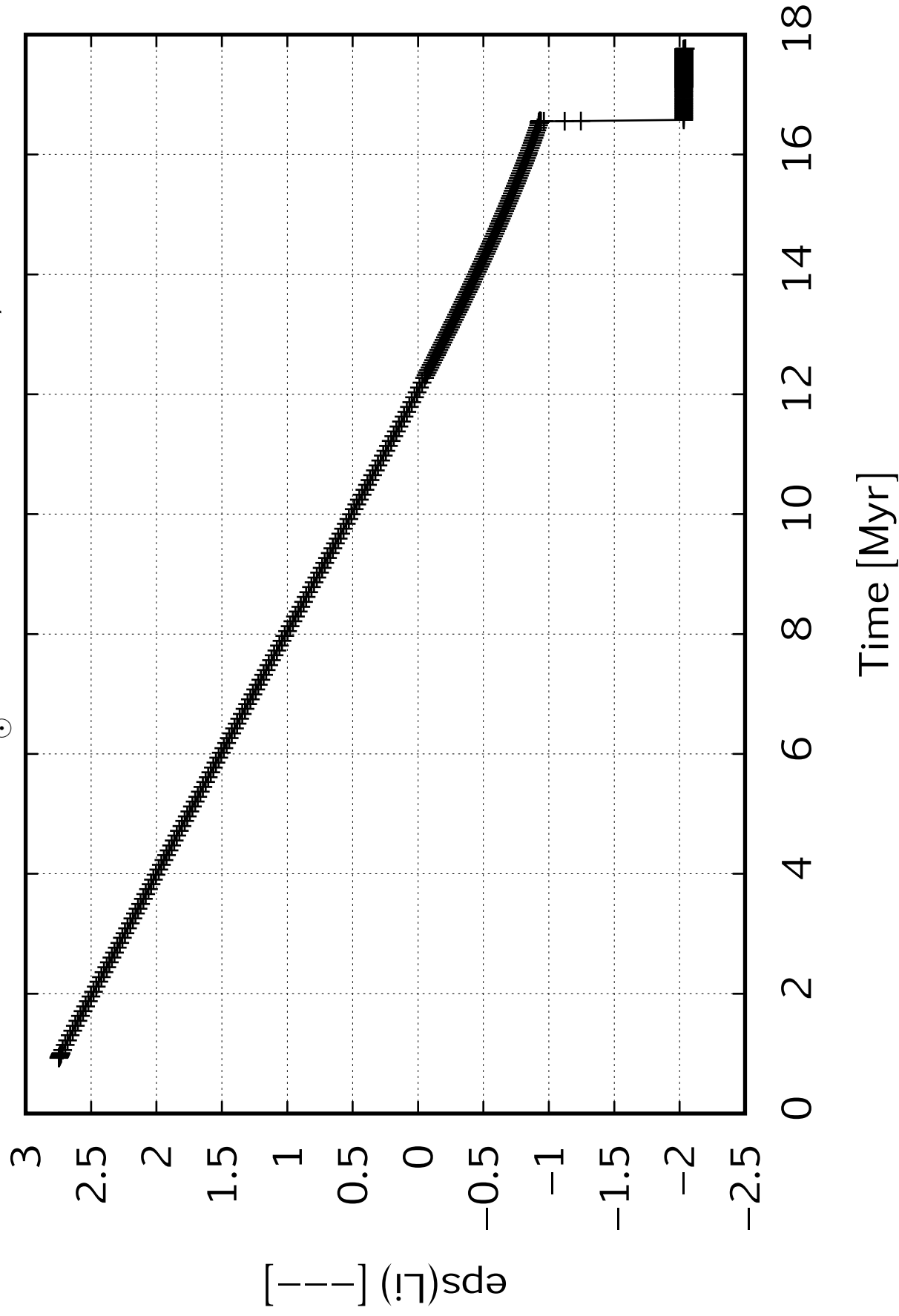
16

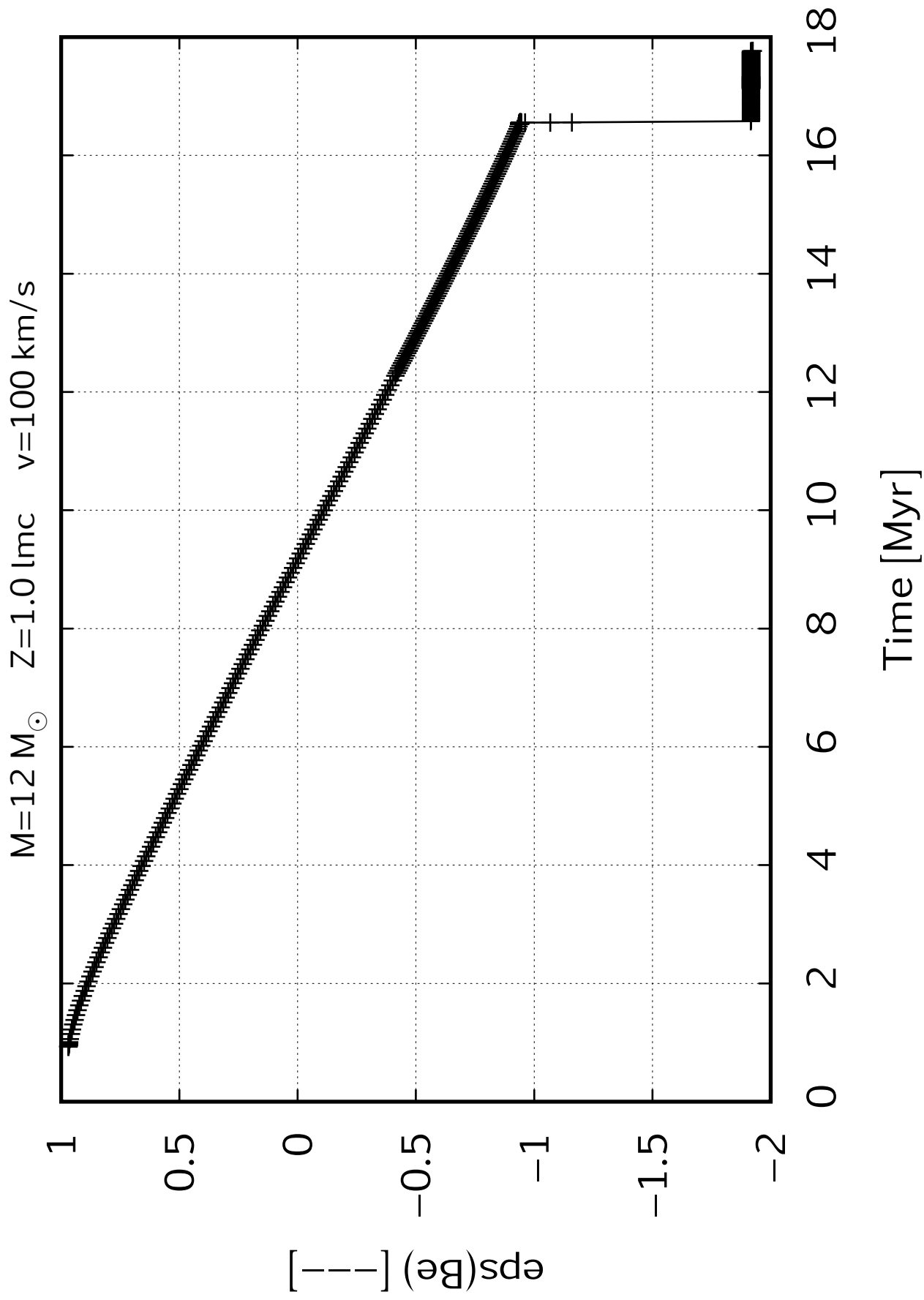
18

Time [Myr]

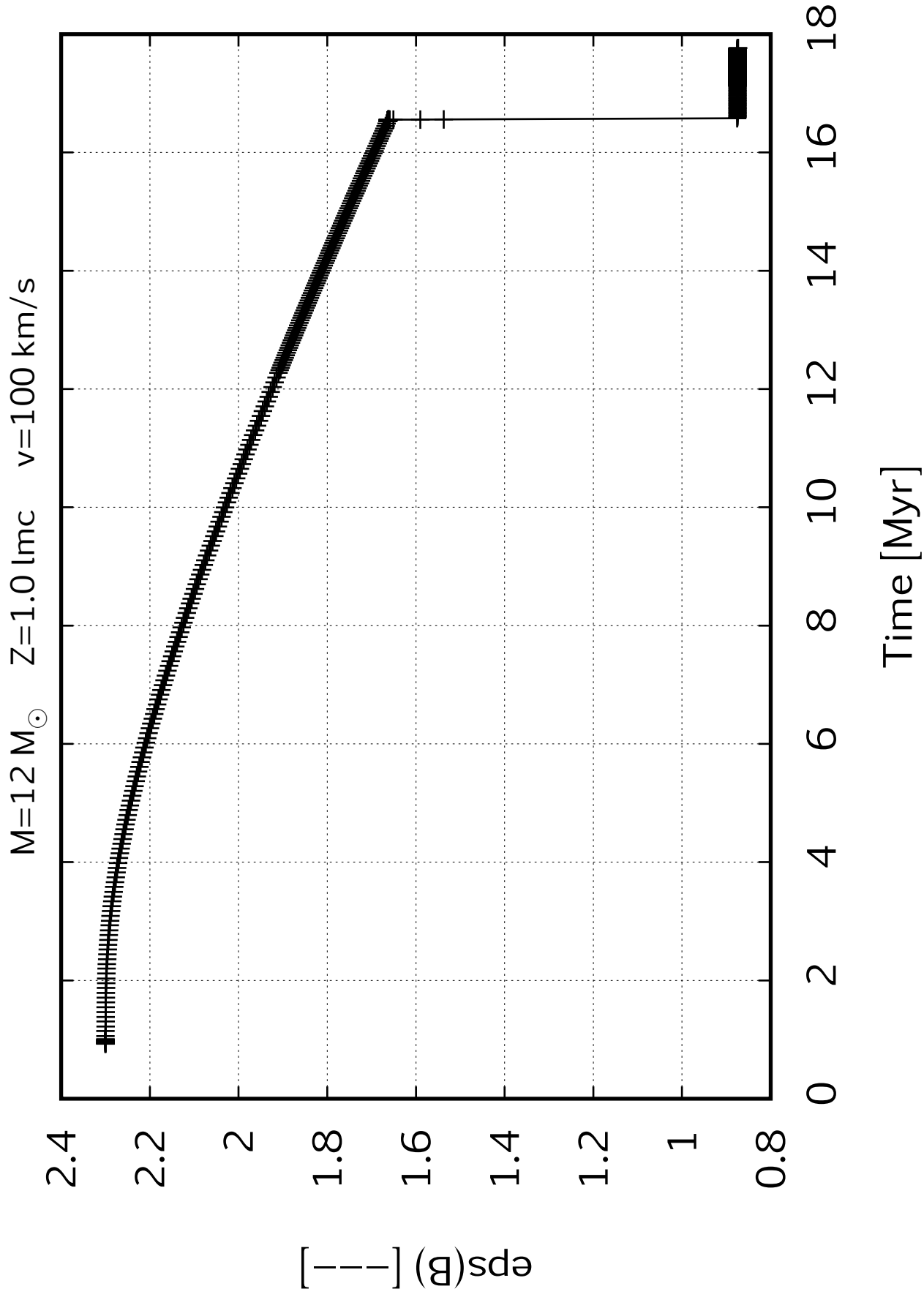


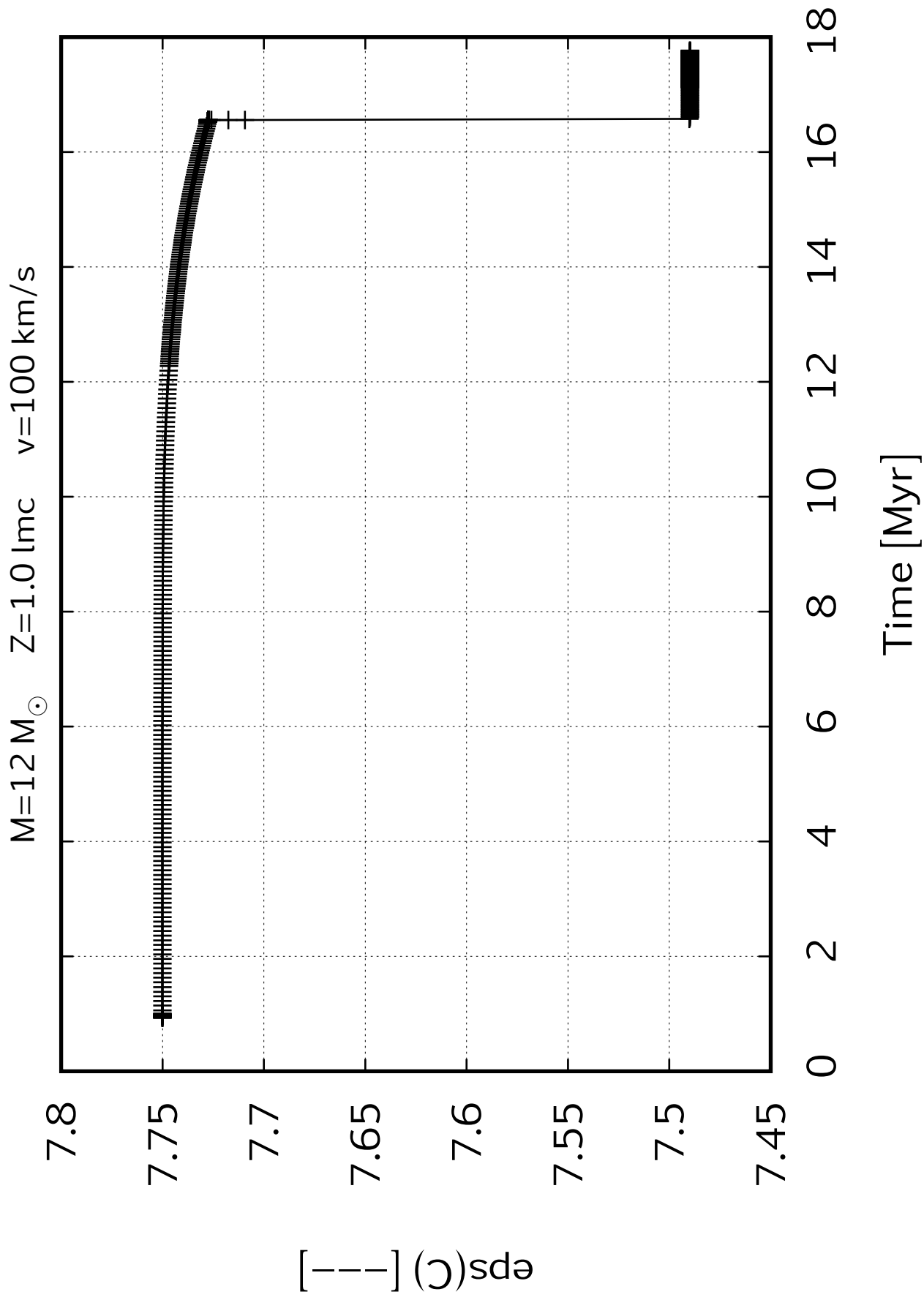
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

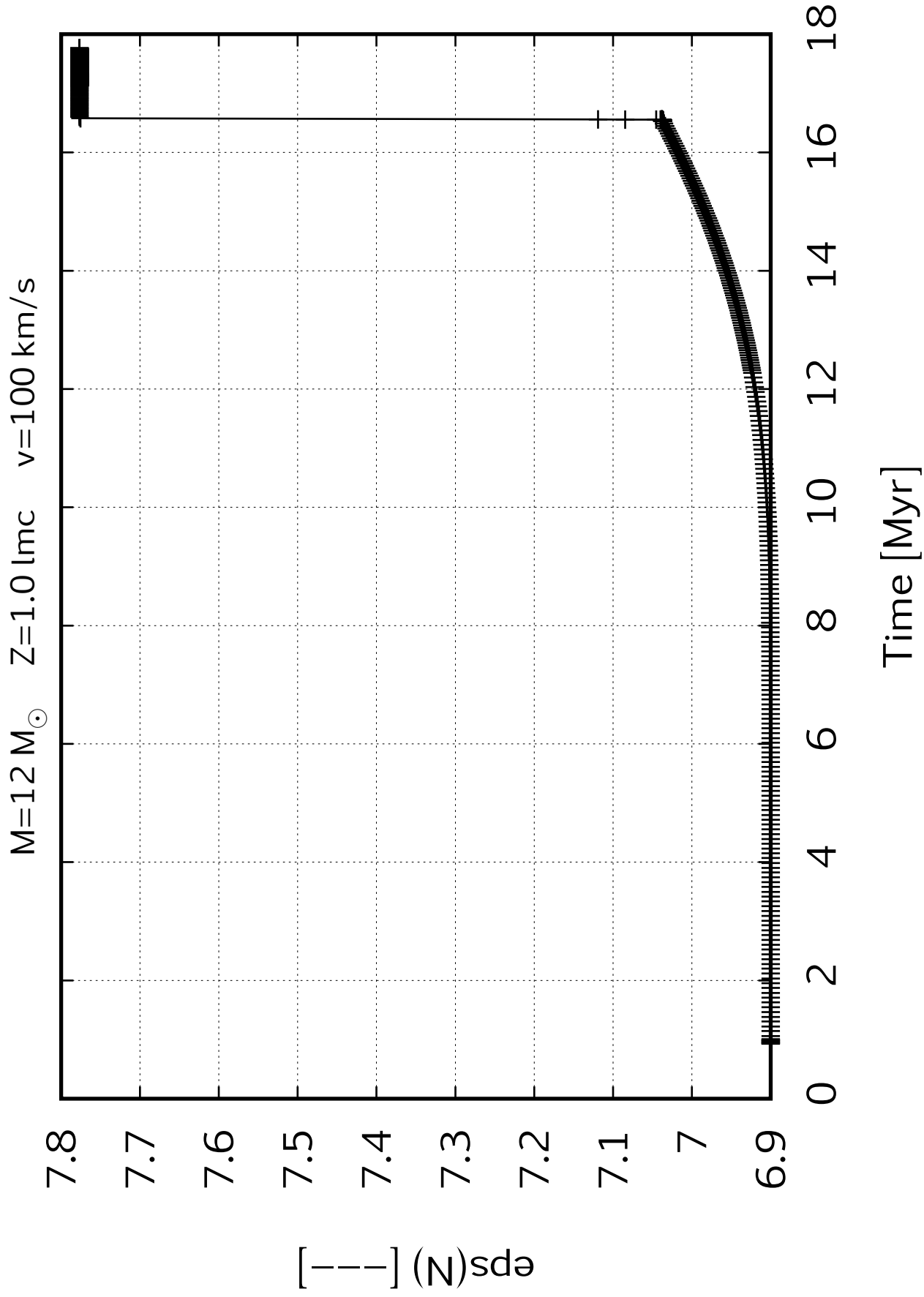












$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

8.355

8.35

8.345

8.34

8.335

8.33

8.325

8.32

8.315

8.31

8.305

$[O/H]$

0

2

4

6

8

10

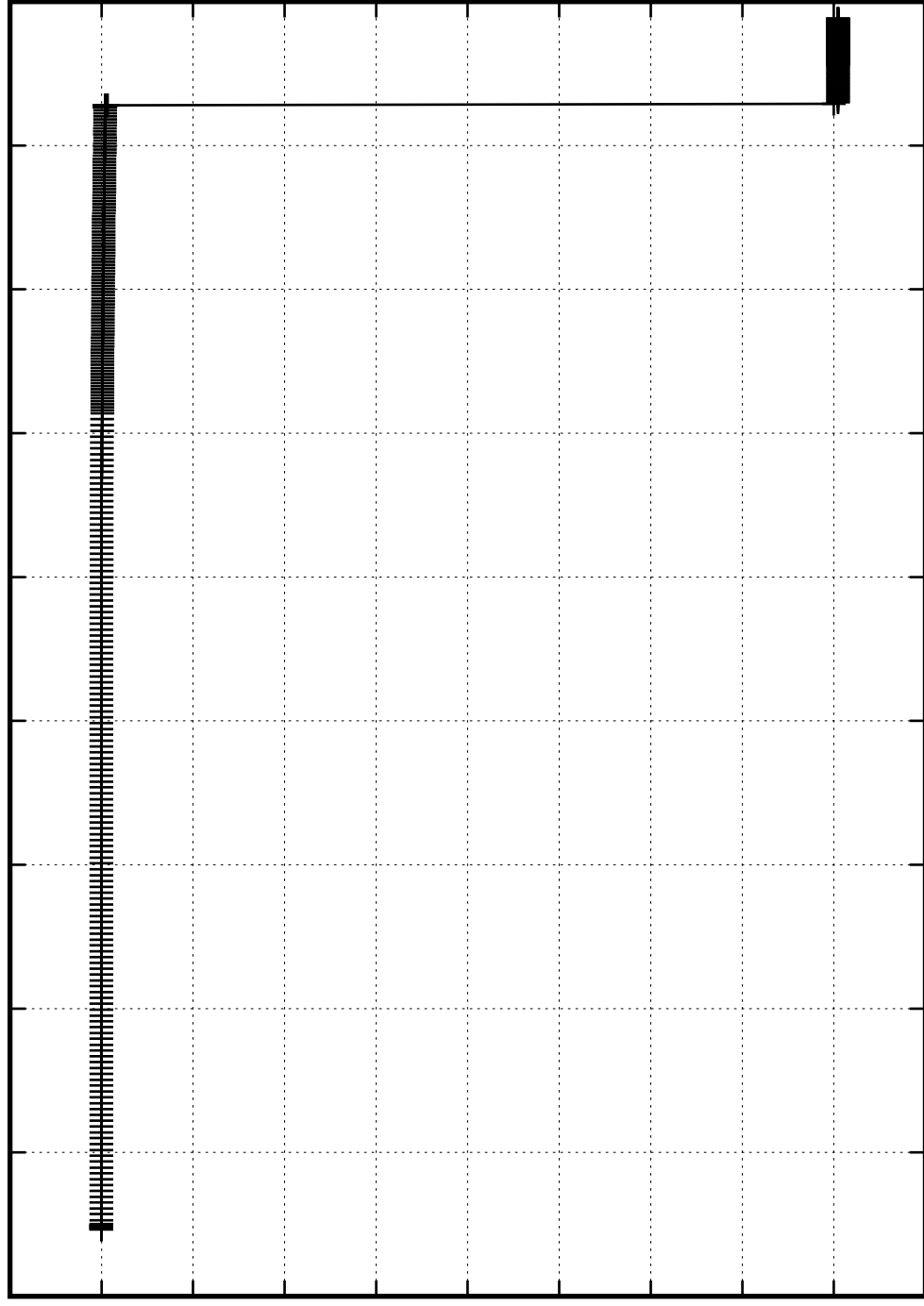
12

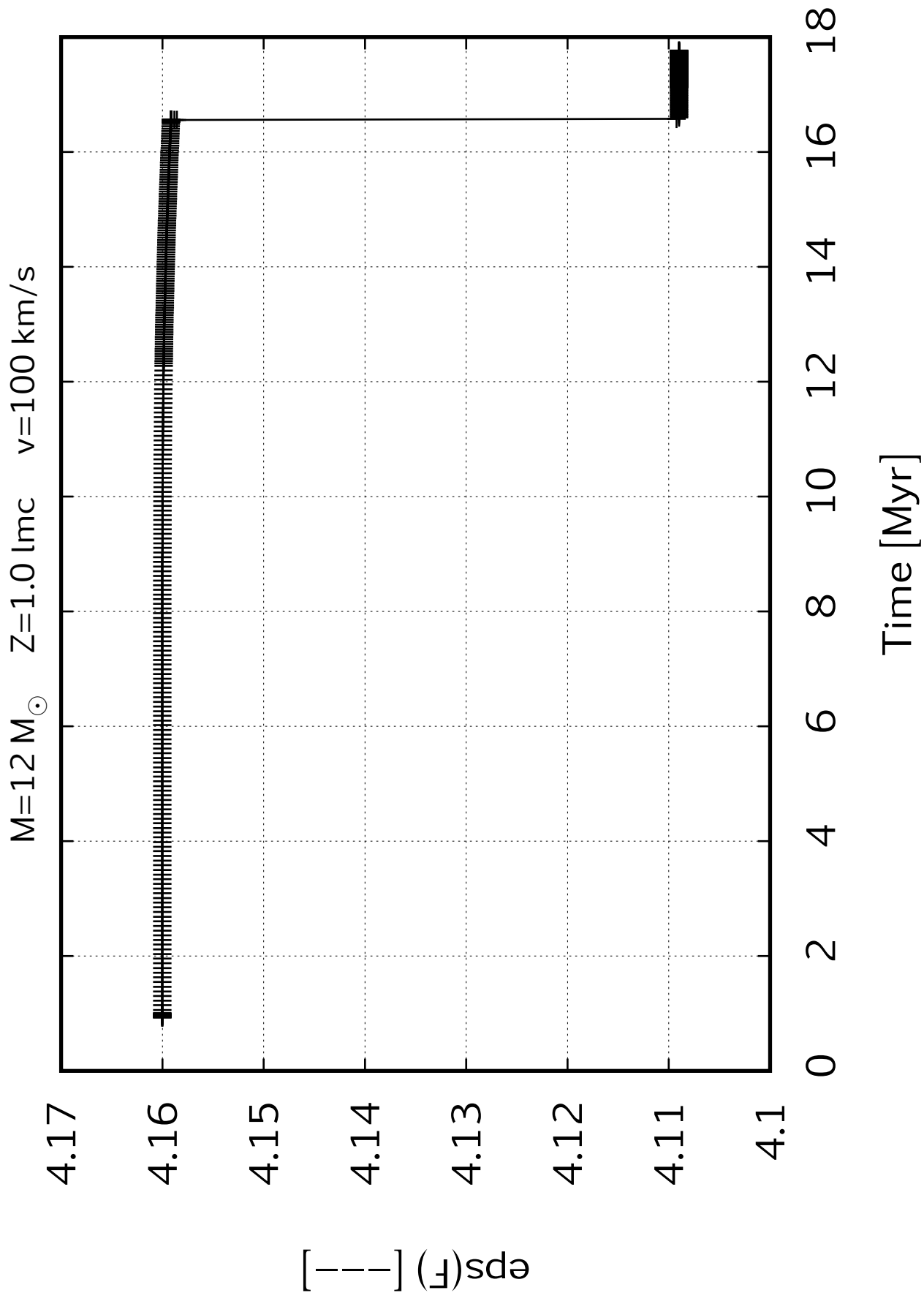
14

16

18

Time [Myr]





$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

7.446

7.445

7.444

7.443

7.442

7.441

7.44

7.439

$\epsilon_{\text{ps}}(\text{Ne})$  [—]

0

2

4

6

8

10

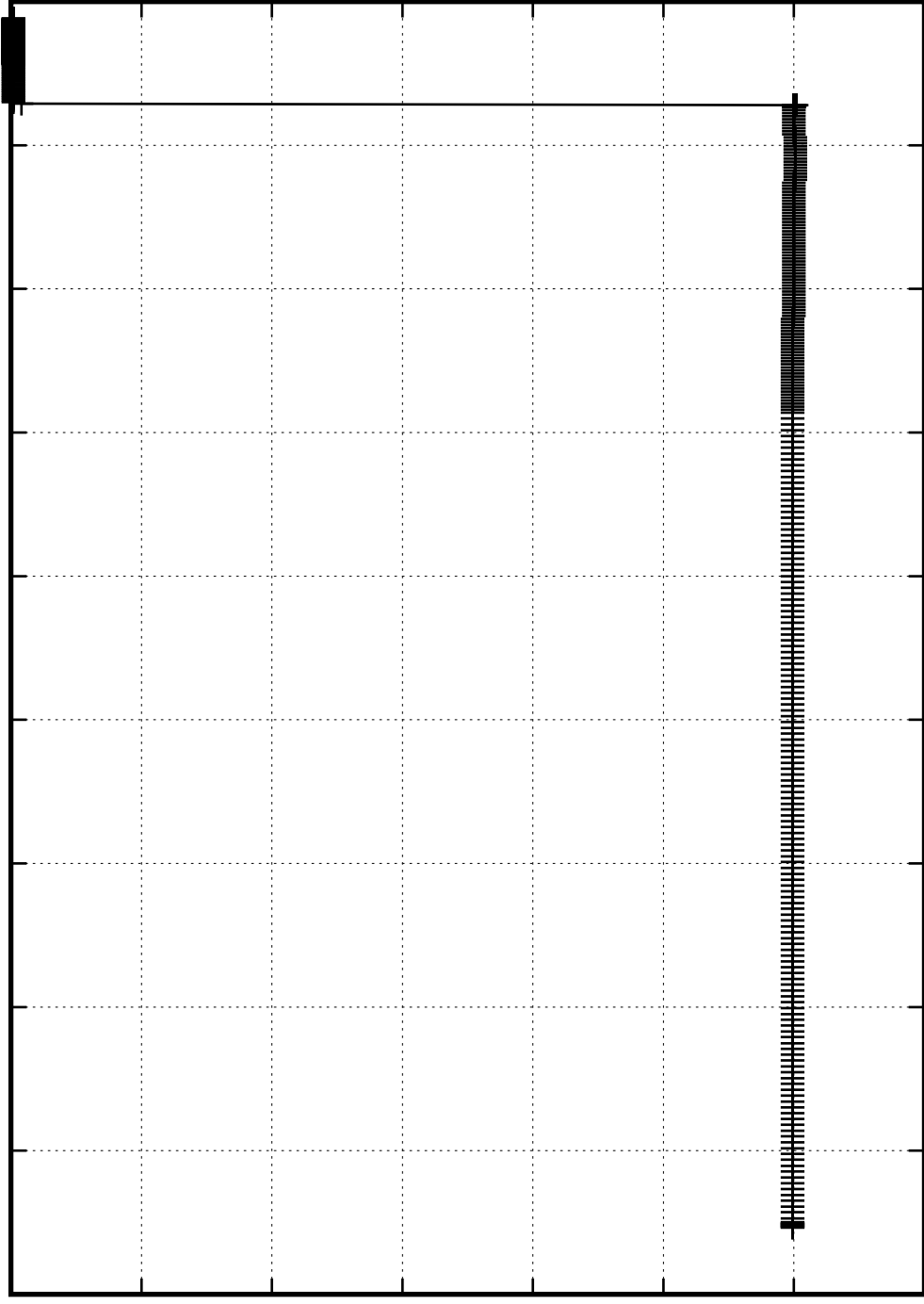
12

14

16

18

Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0\,\text{lmc}$     $v=100\,\text{km/s}$

5.94

5.92

5.9

5.88

5.86

5.84

5.82

5.8

5.78

5.76

$\epsilon_{\text{ps}}(\text{Na})$

0

2

4

6

8

10

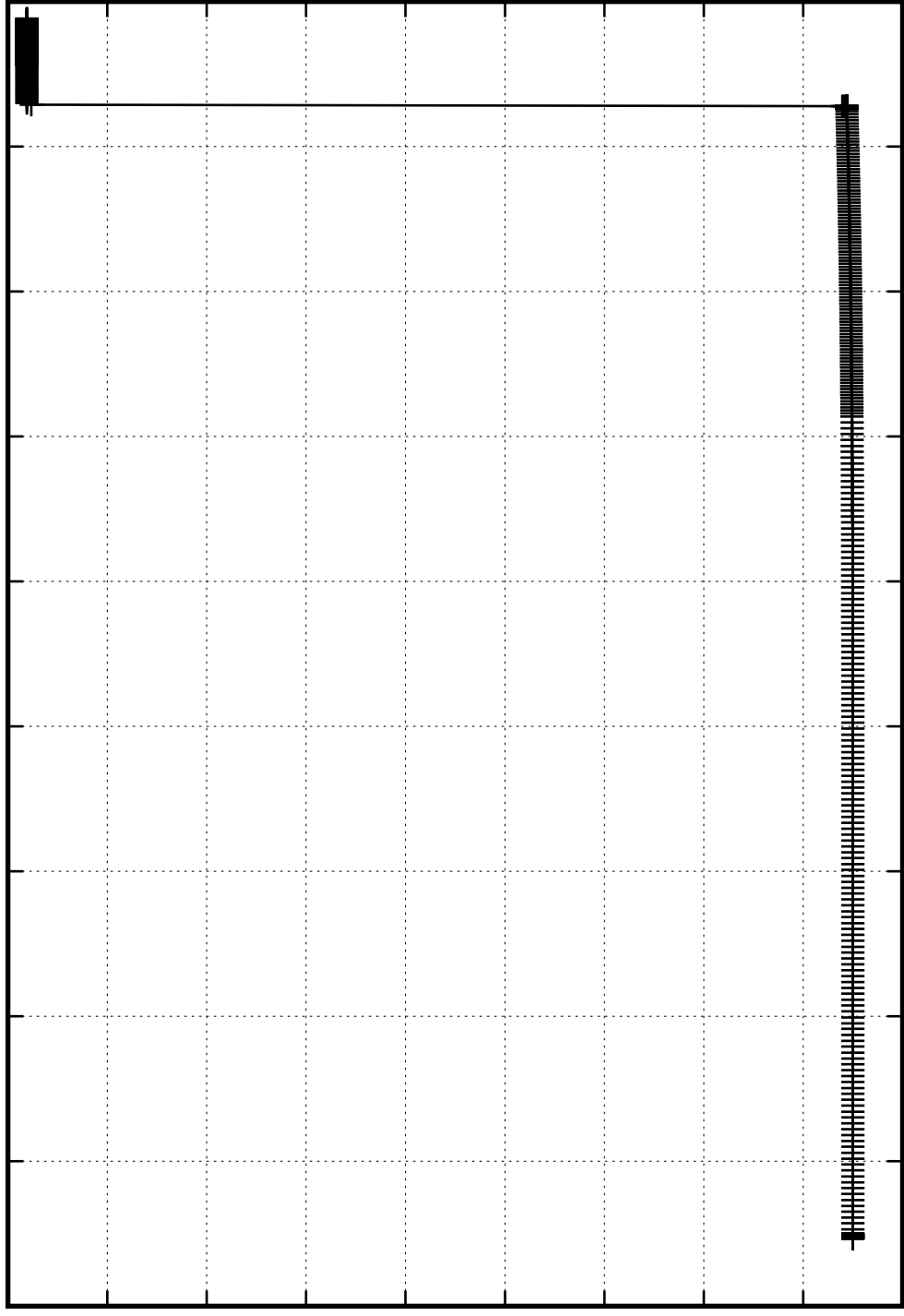
12

14

16

18

Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

7.06

7.059

7.058

7.057

7.056

7.055

7.054

7.053

7.052

7.051

7.05

$\epsilon_{\text{ps}}(M_{\text{g}})$

0

2

4

6

8

10

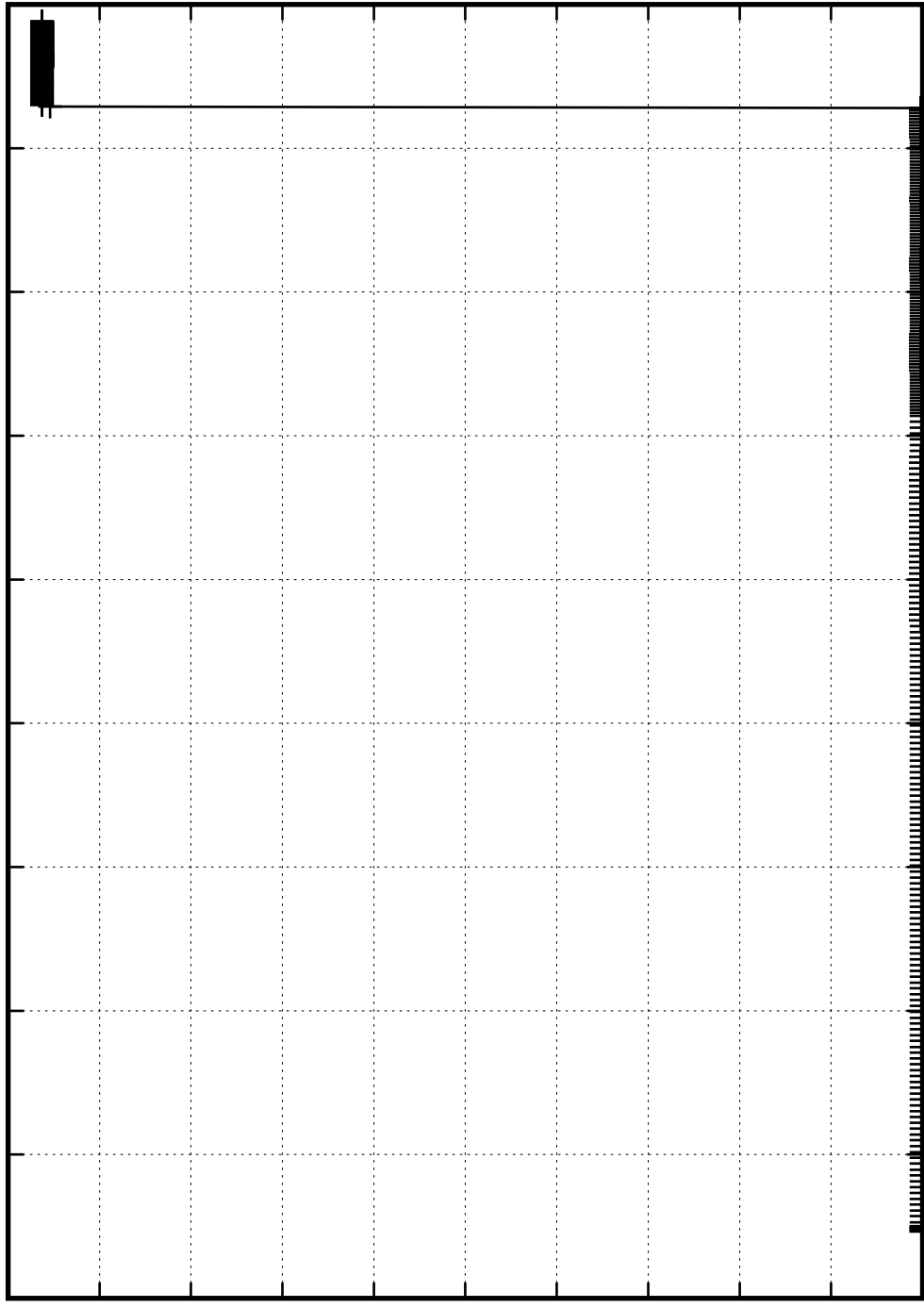
12

14

16

18

Time [Myr]





$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

5.986

5.984

5.982

5.98

5.978

5.976

5.974

5.972

5.97

[ $\epsilon_{\text{ps}}(\text{Al})$ ]

0

2

4

6

8

10

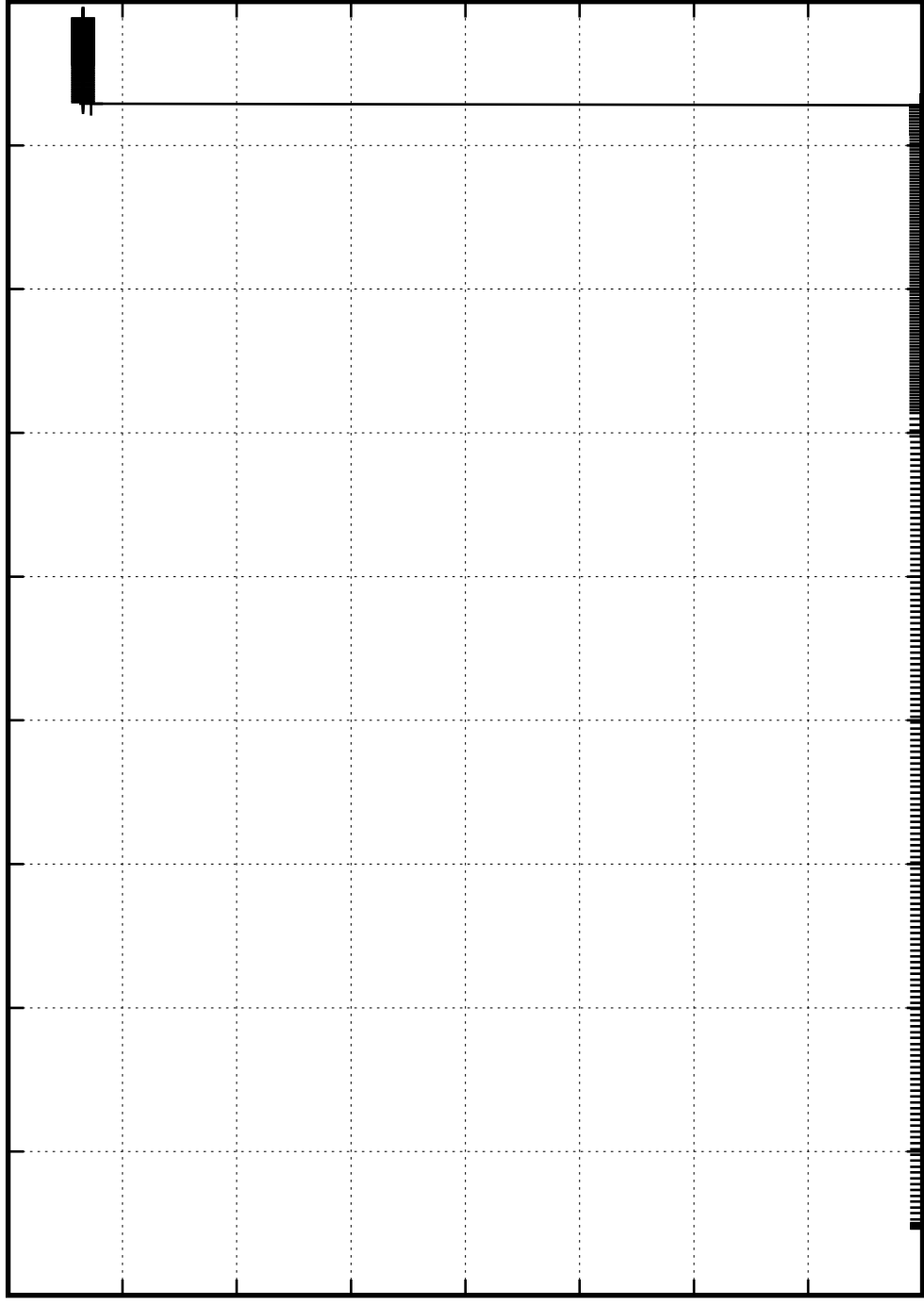
12

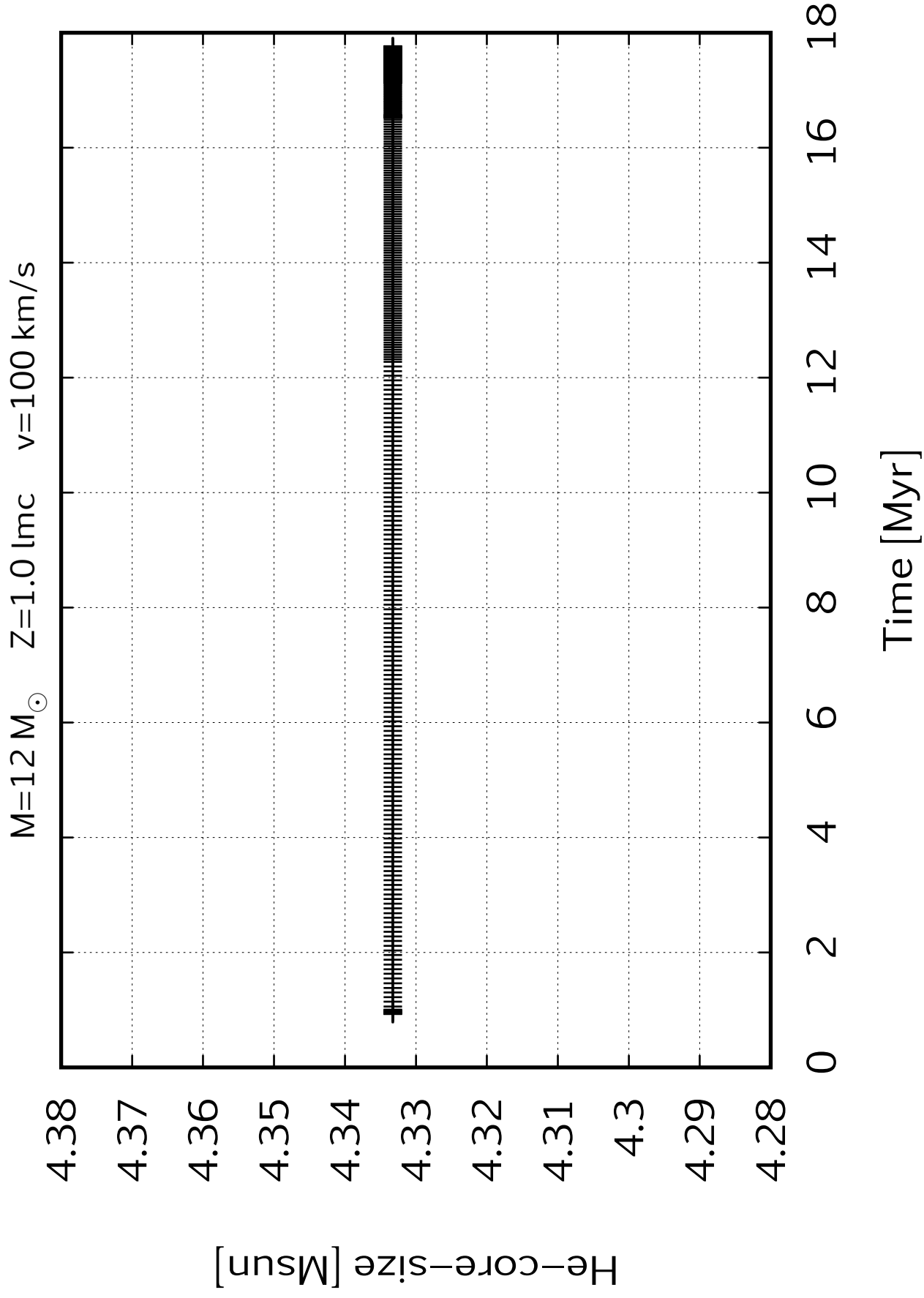
14

16

18

Time [Myr]

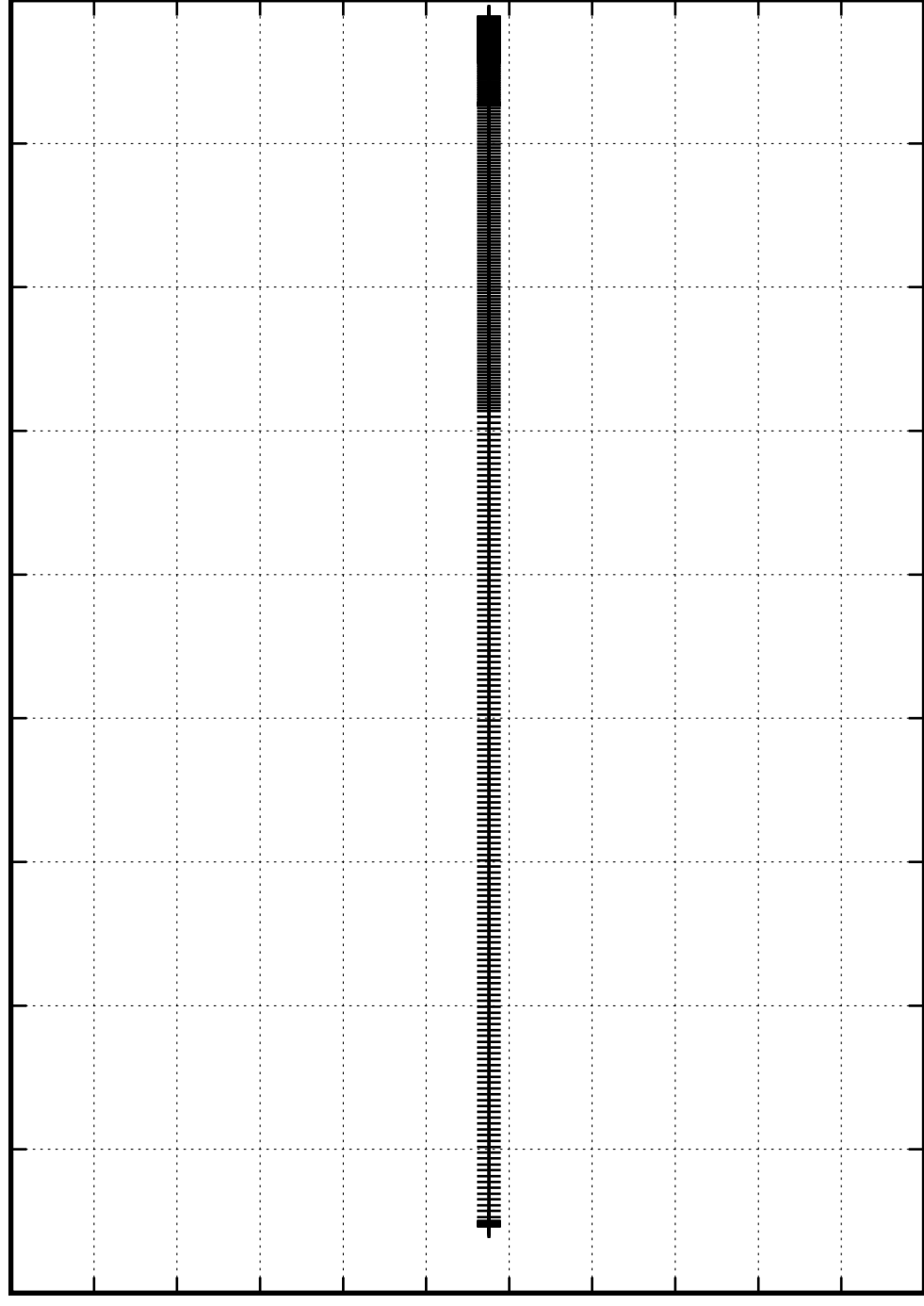




$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

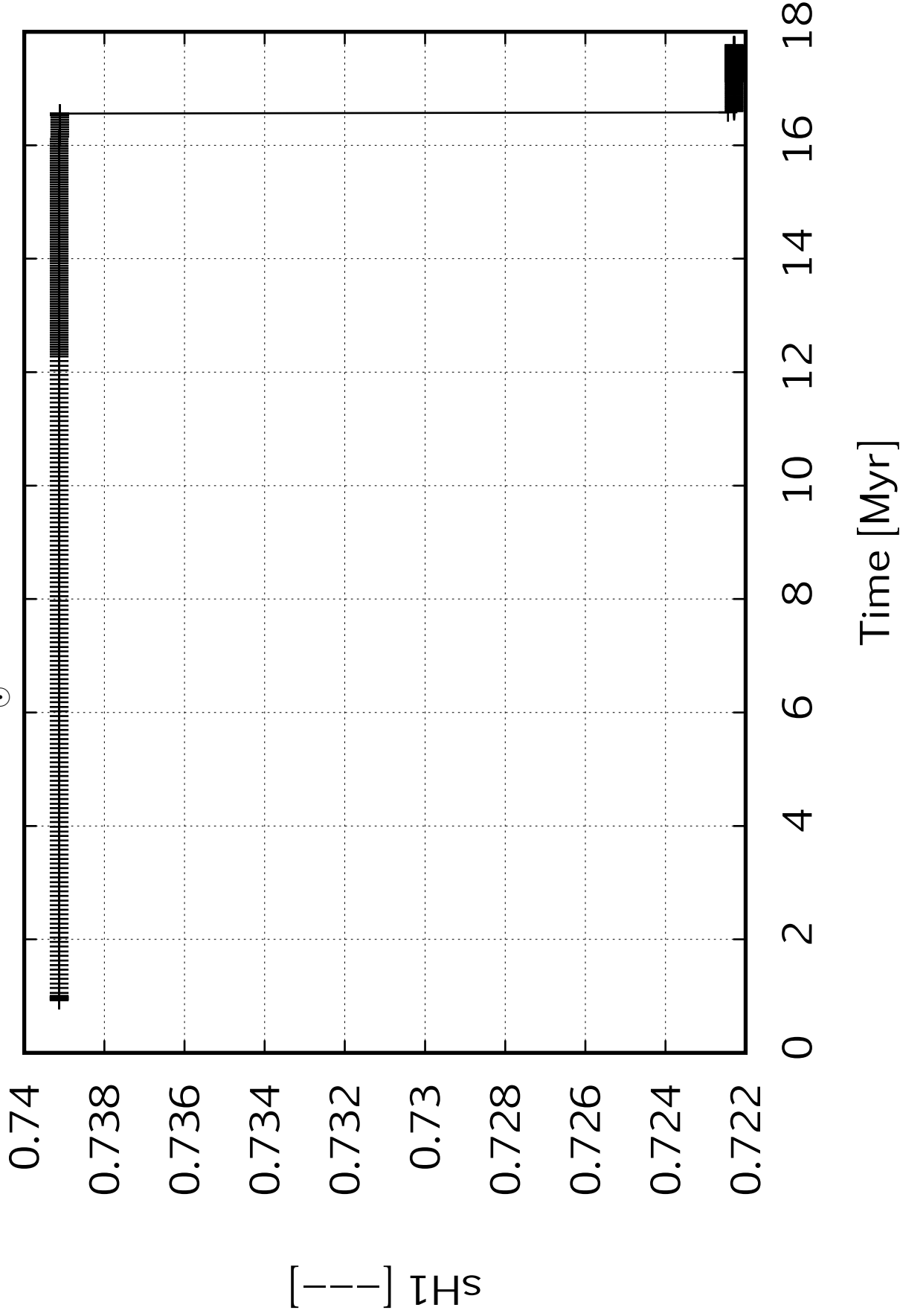
CO-core-size [Msun]

2.52  
2.515  
2.51  
2.505  
2.5  
2.495  
2.49  
2.485  
2.48  
2.475  
2.47  
2.465

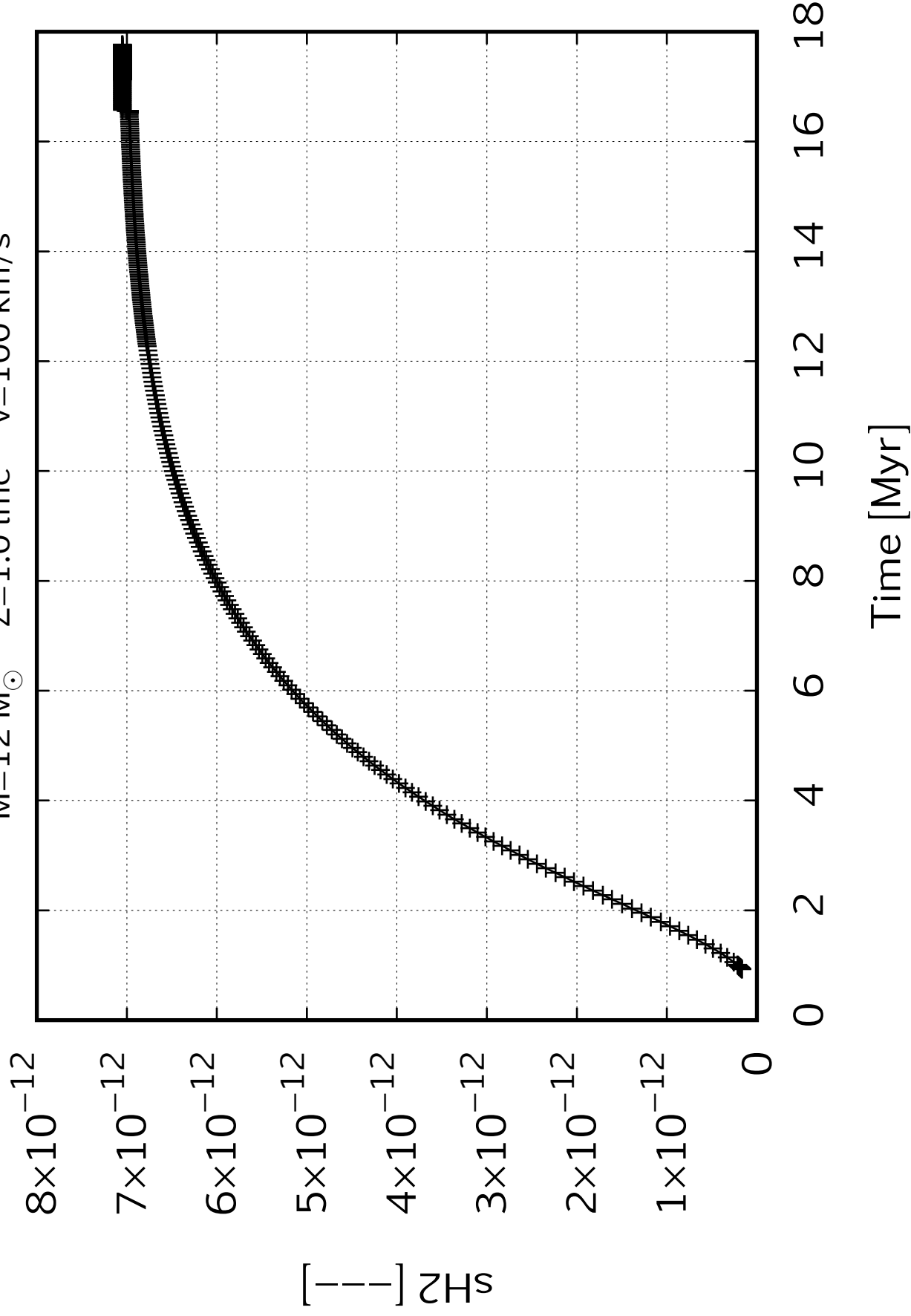


Time [Myr]

$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



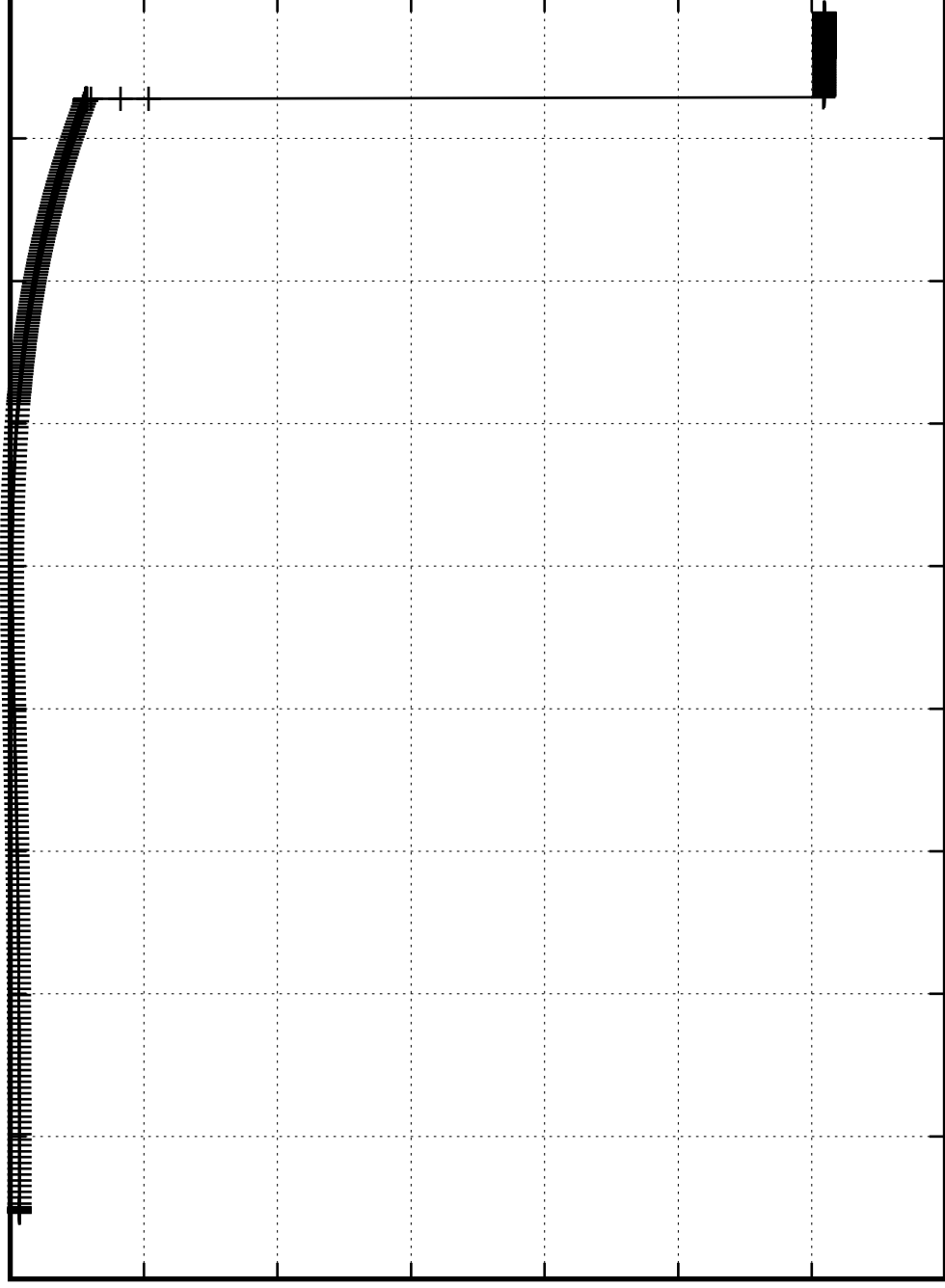
$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

$[\text{He III}]$

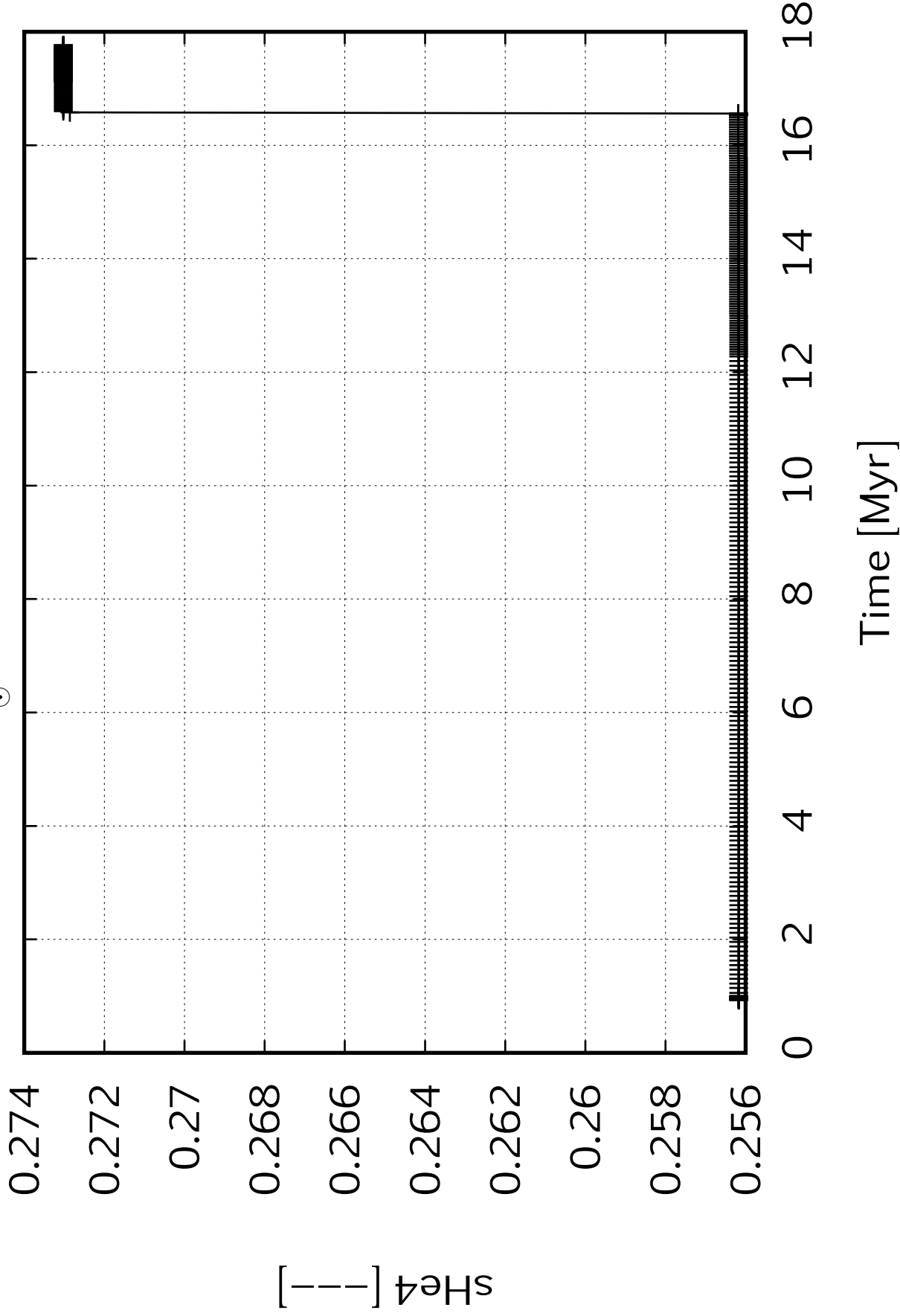
0.00003  
0.00003  
0.00003  
0.00003  
0.00002  
0.00002  
0.00002  
0.00002

0   2   4   6   8   10   12   14   16   18

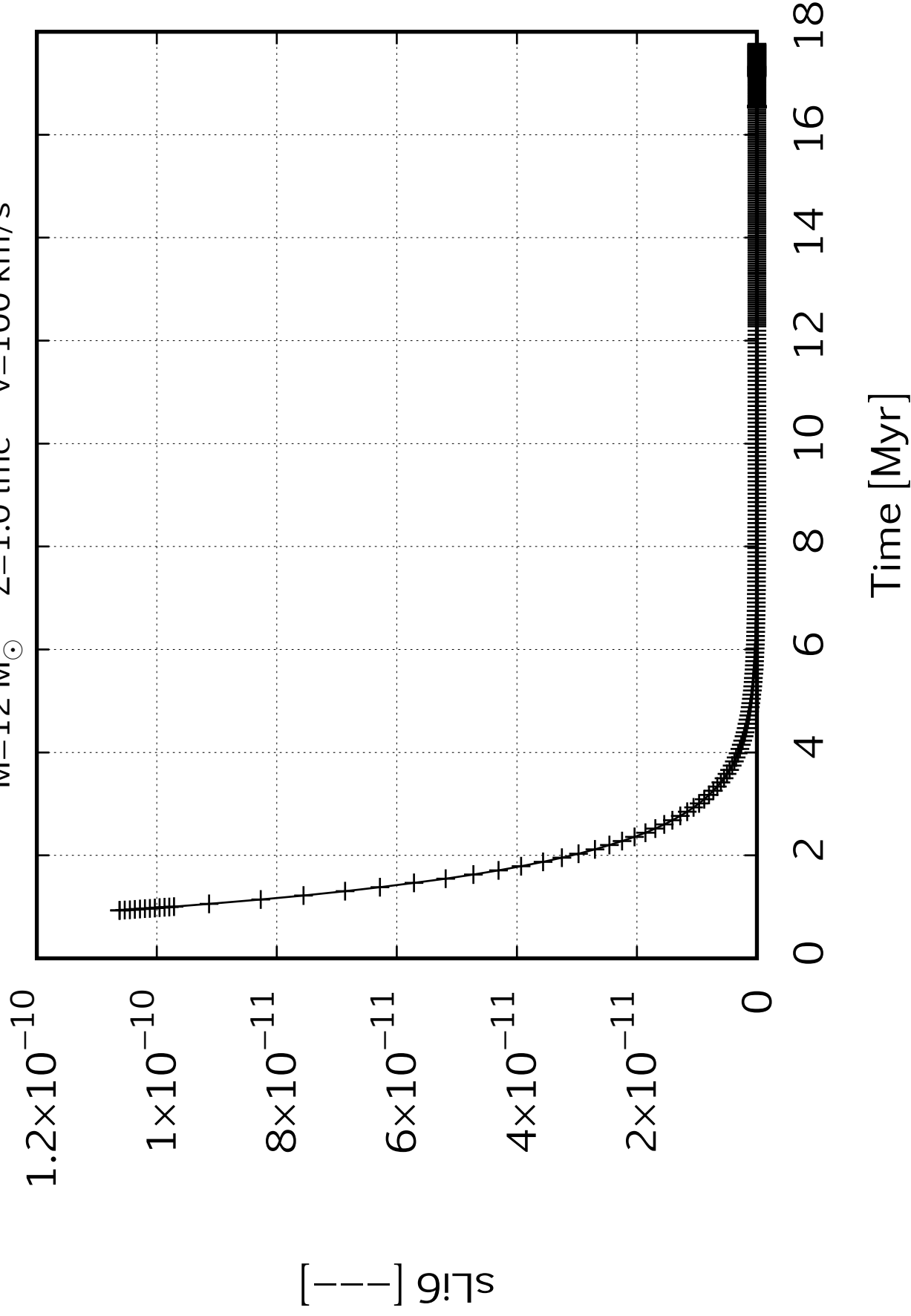
Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0\,\text{lmc}$     $v=100\,\text{km/s}$

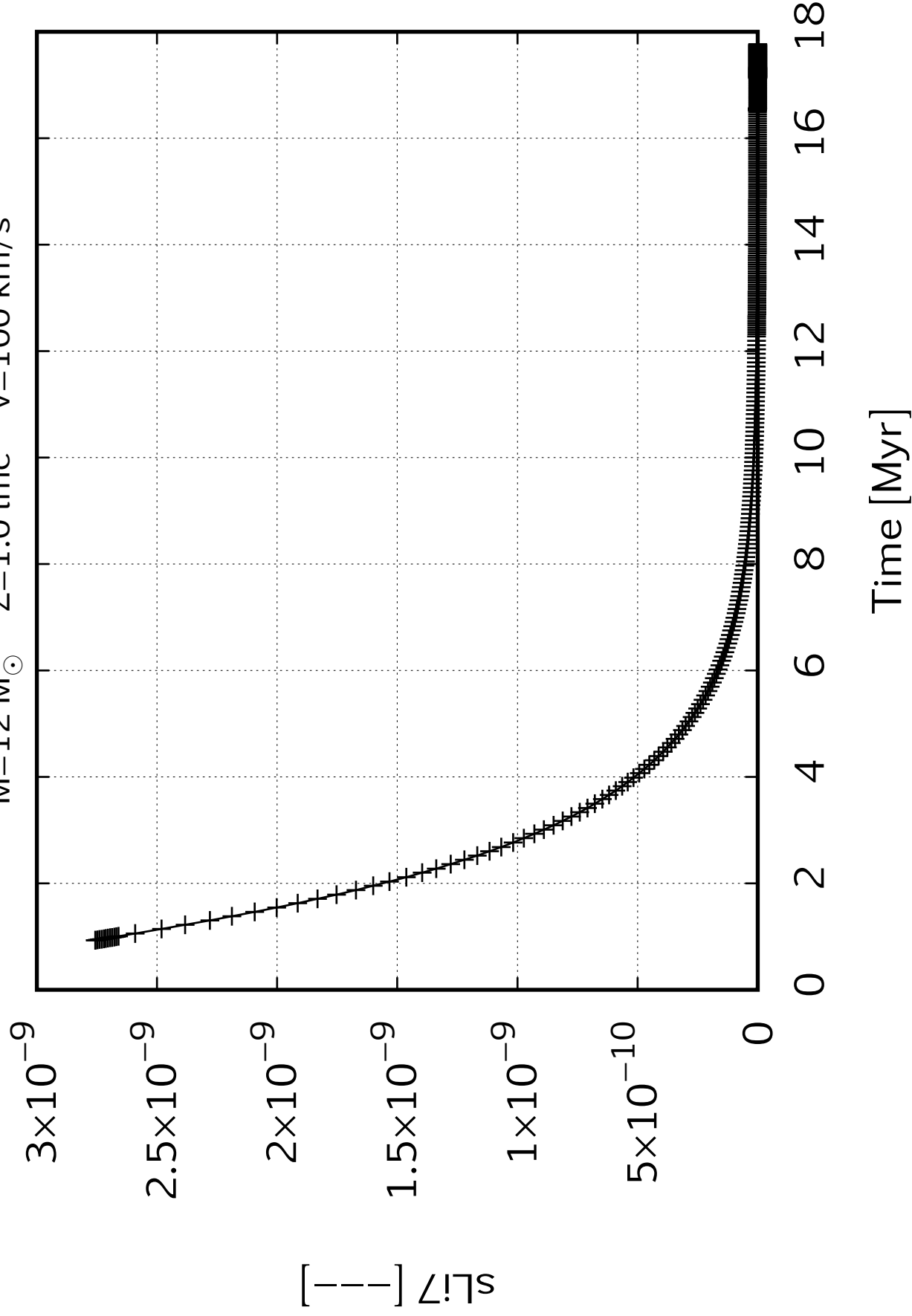


$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

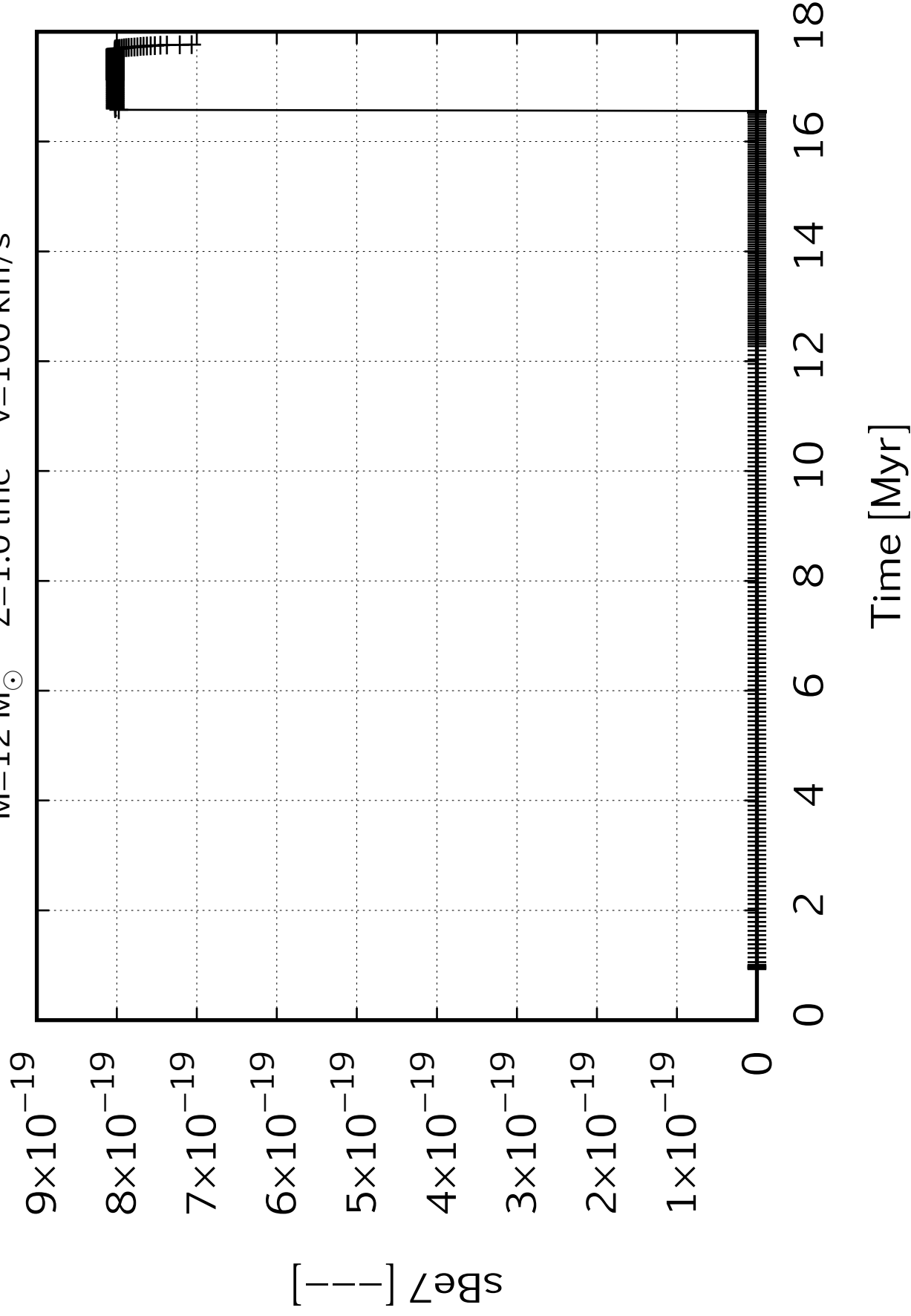




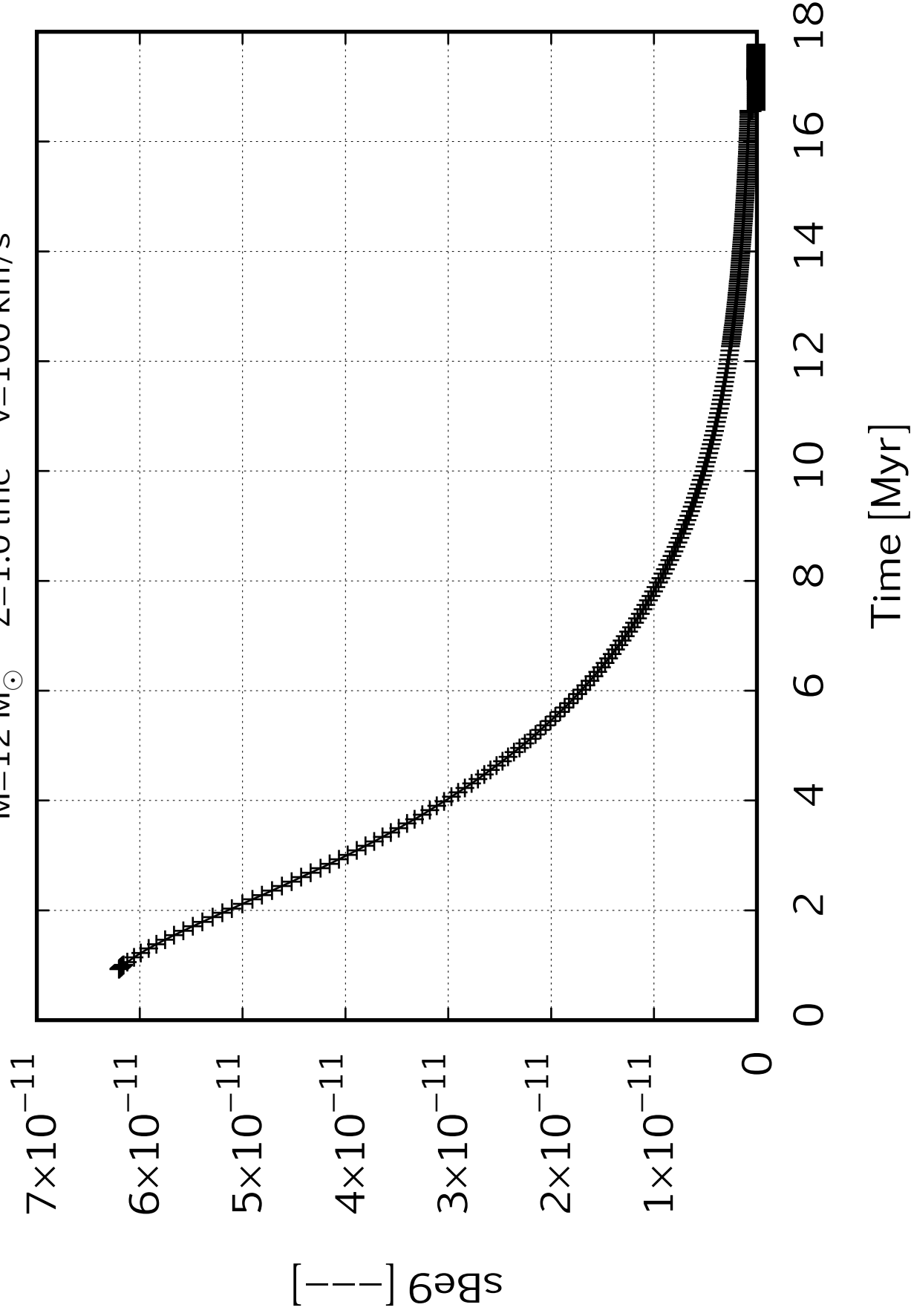
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12 M_{\odot}$     $Z=1.0 \text{ lmc}$     $v=100 \text{ km/s}$



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

$4.5 \times 10^{-41}$

$4 \times 10^{-41}$

$3.5 \times 10^{-41}$

$3 \times 10^{-41}$

$2.5 \times 10^{-41}$

$2 \times 10^{-41}$

$1.5 \times 10^{-41}$

$1 \times 10^{-41}$

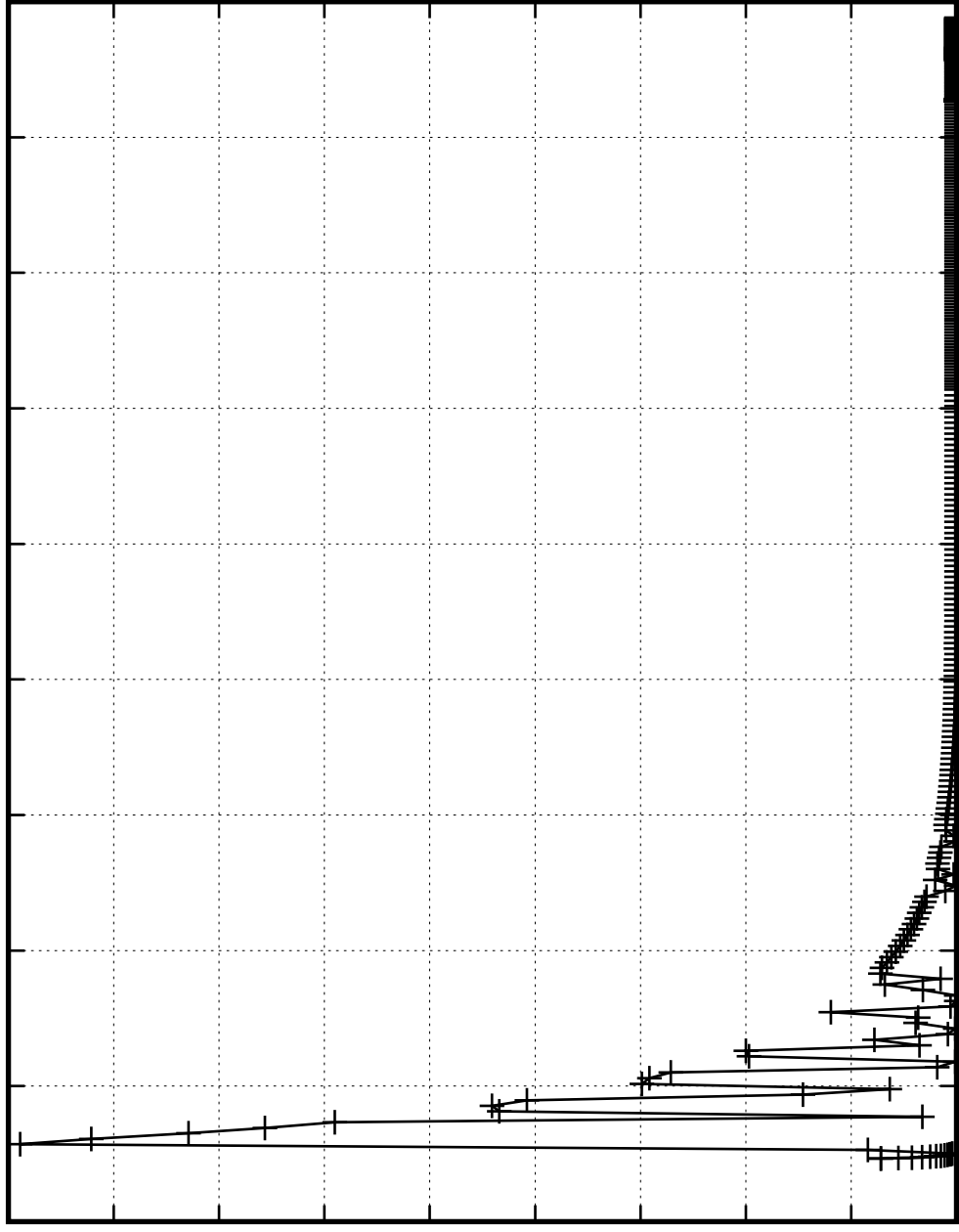
$5 \times 10^{-42}$

0

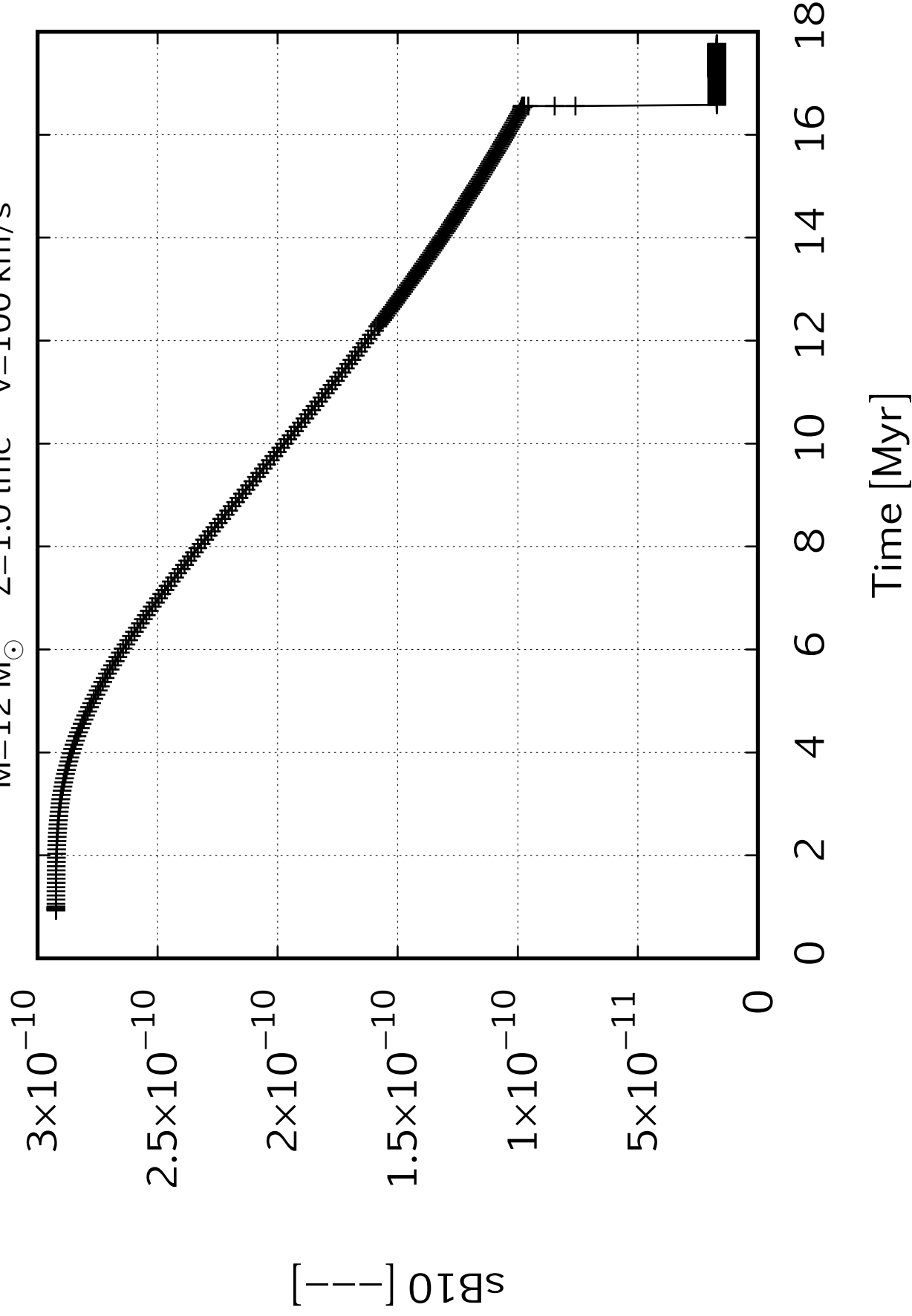
$\left[ \frac{\text{I}}{\text{H}} \right]_{\text{B8}}$

Time [Myr]

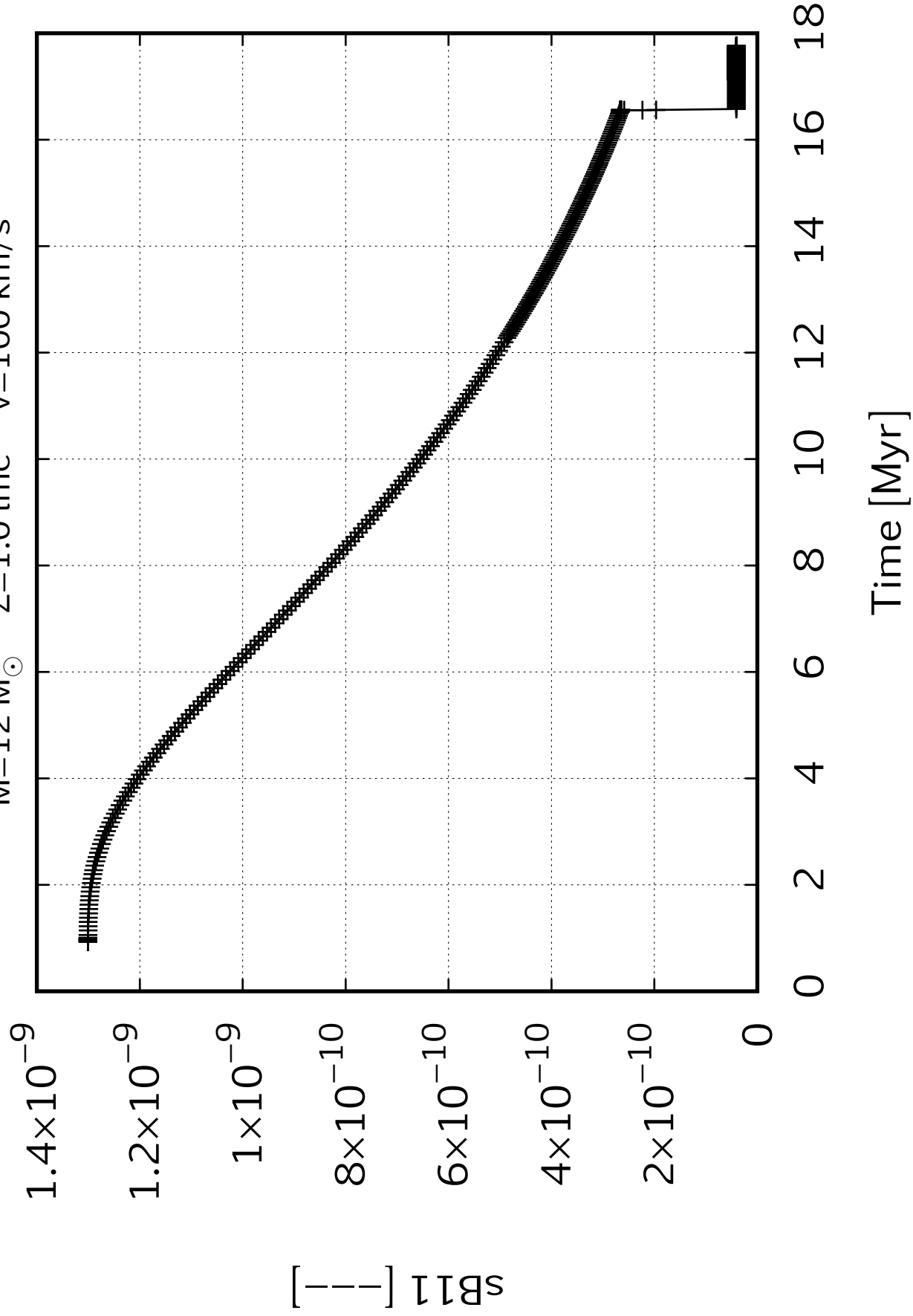
0   2   4   6   8   10   12   14   16   18



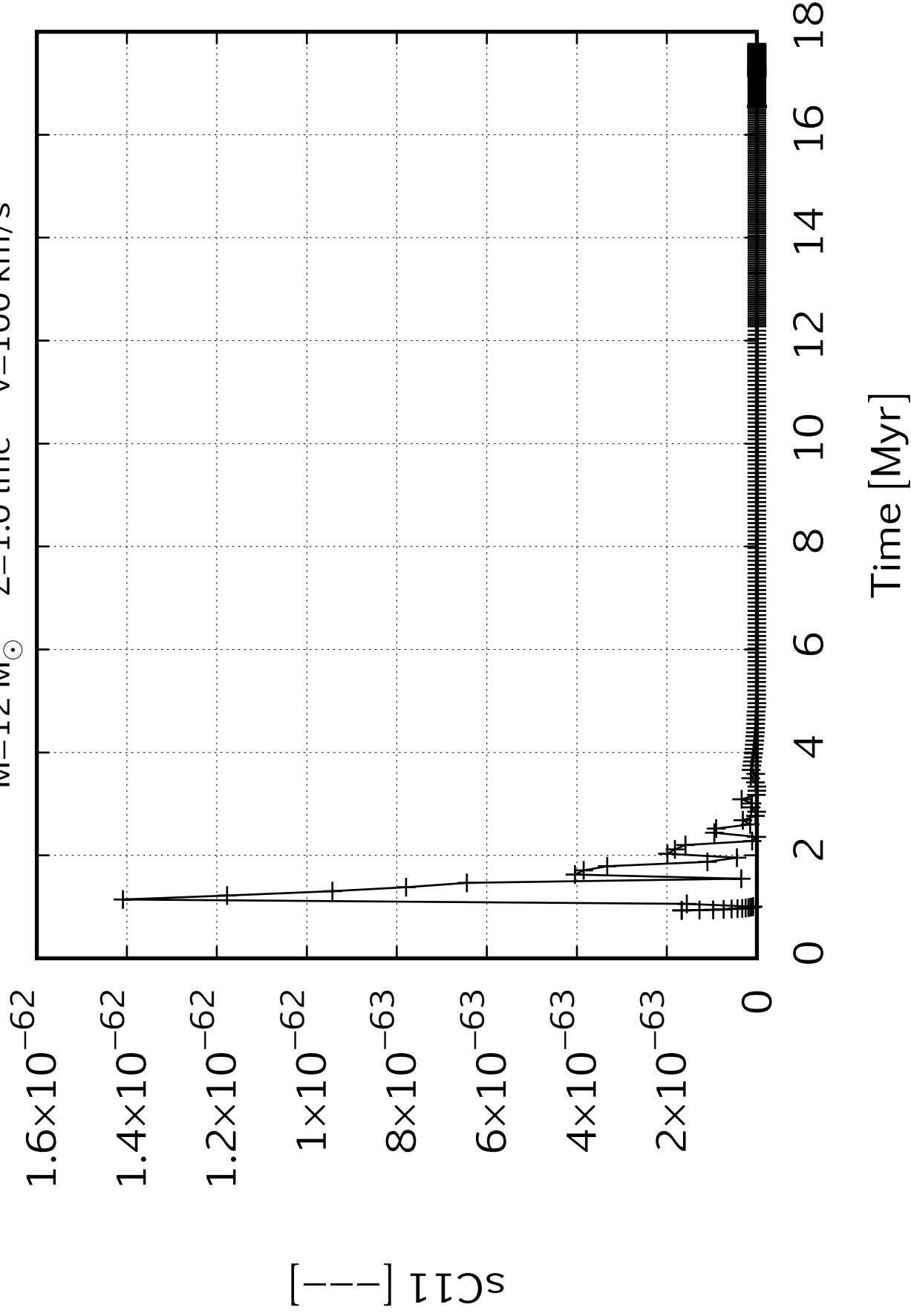
$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.0005

0.00045

0.0004

0.00035

0.0003

0.00025

0.0002

$s_{C12}$  [—]

0

2

4

6

8

10

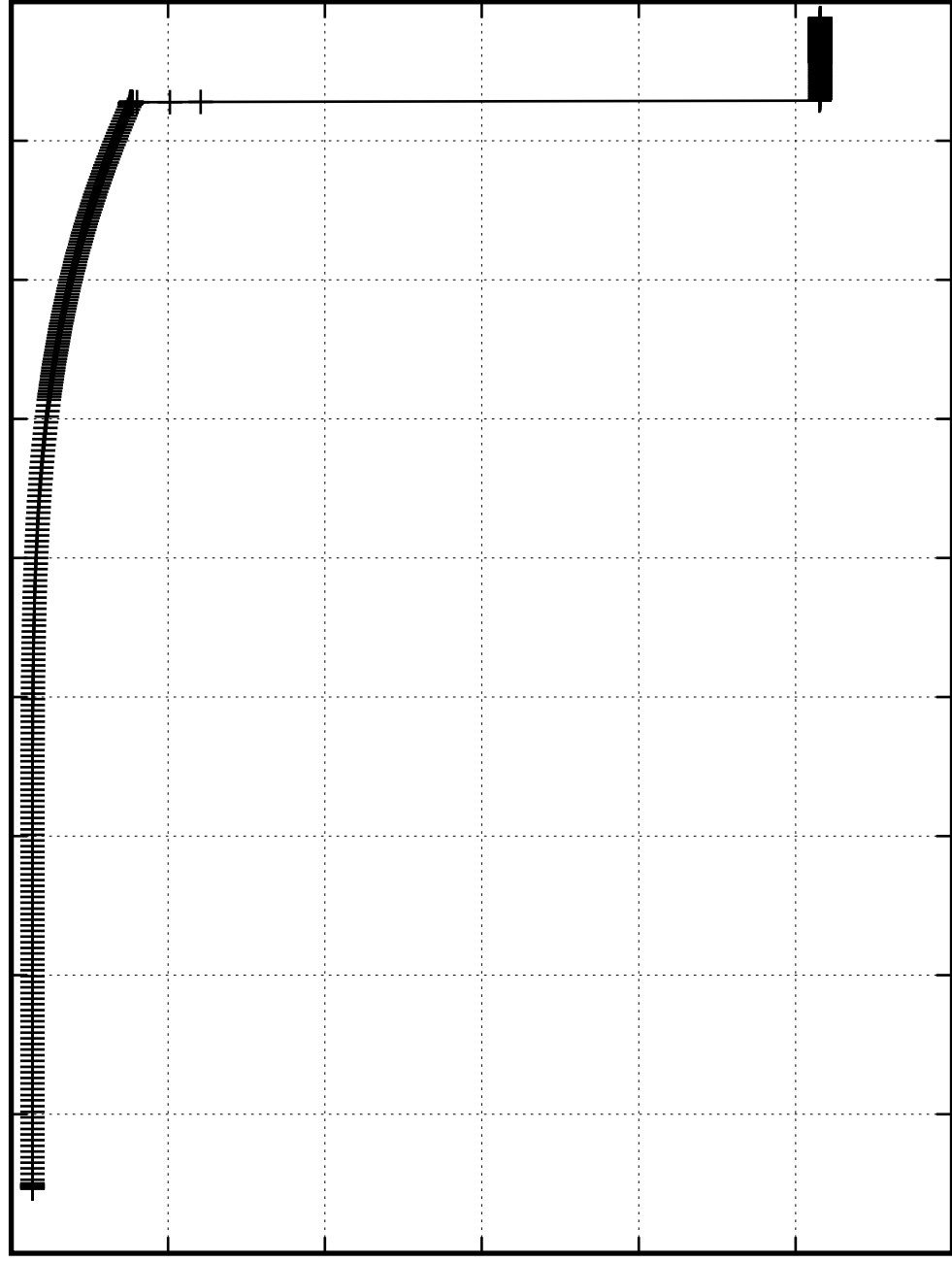
12

14

16

18

Time [Myr]





$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100\text{ km/s}$

0.000030

0.000025

0.000020

0.000015

0.000010

0.000005

$[C\,I\,3]^-$

0

2

4

6

8

10

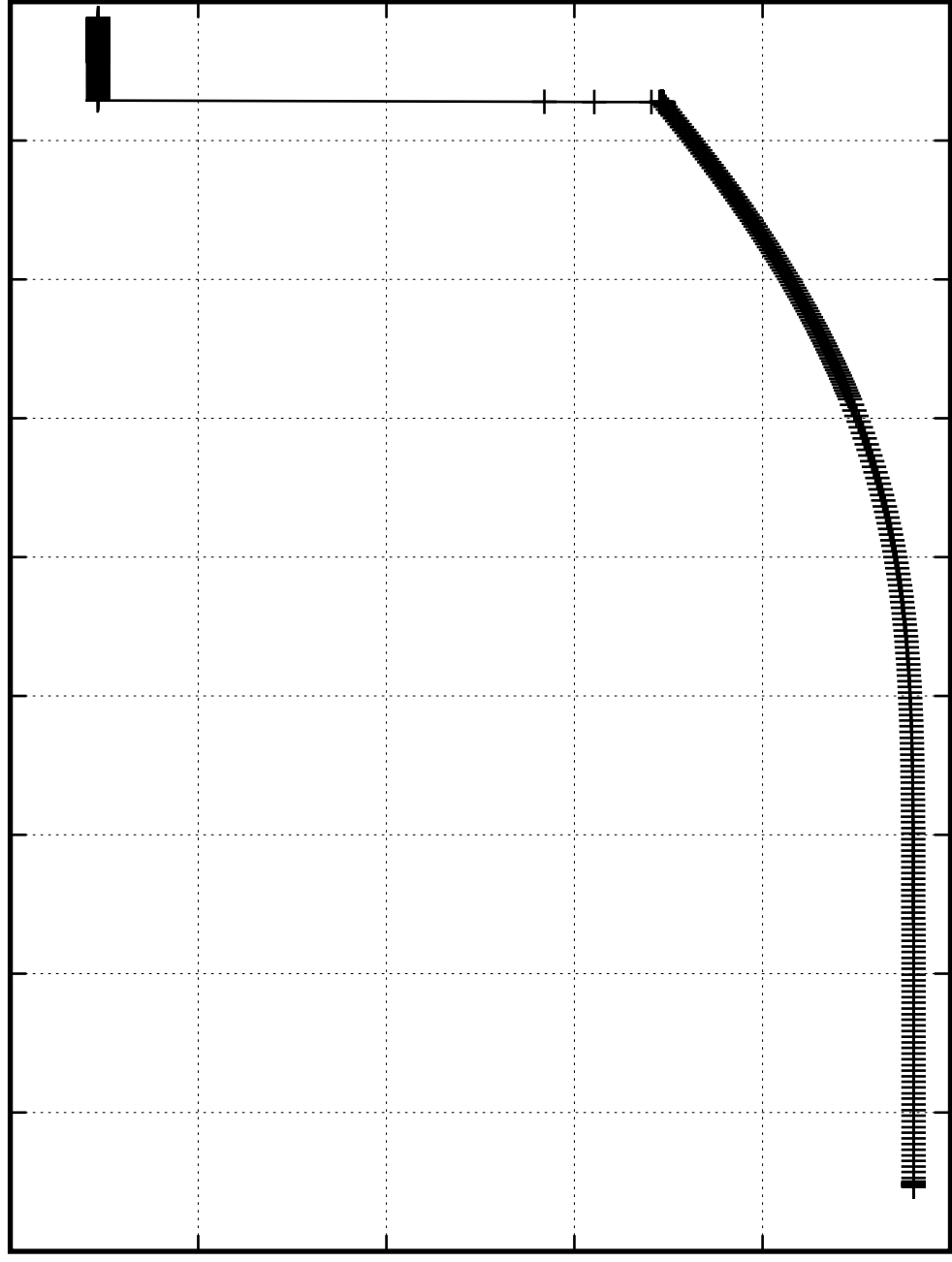
12

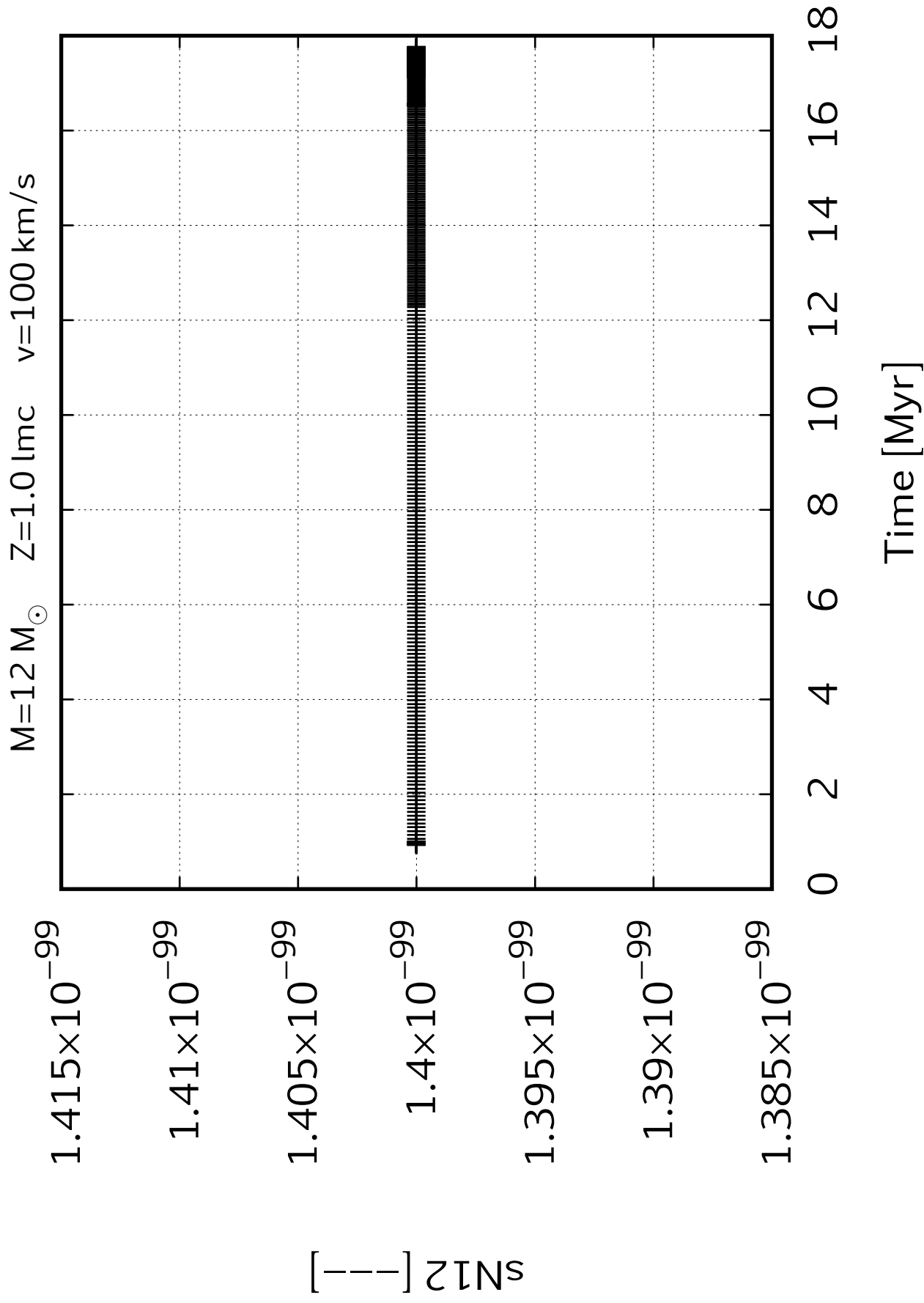
14

16

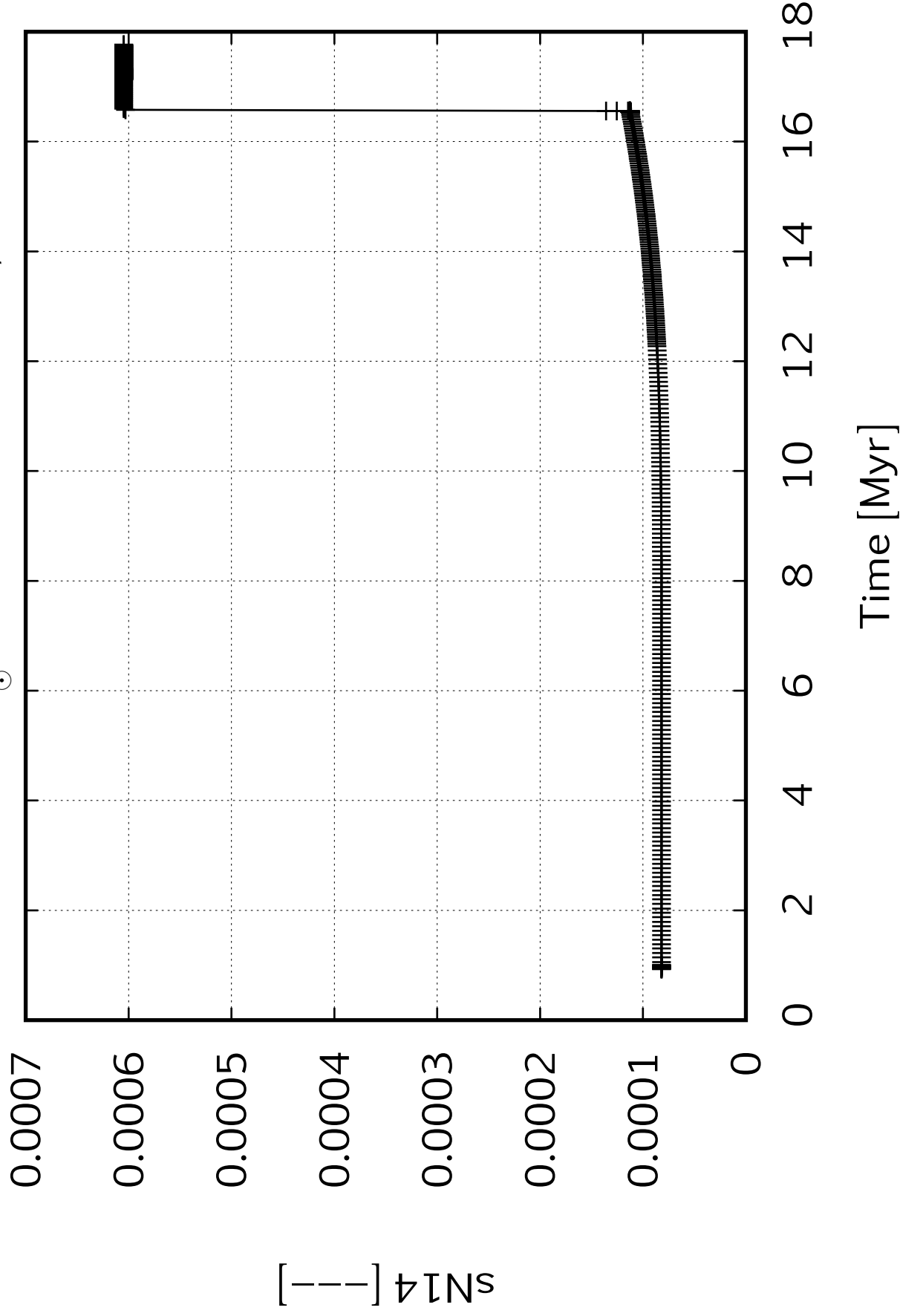
18

Time [Myr]





$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.0000003  
0.0000003  
0.0000003  
0.0000003  
0.0000003  
0.0000002  
0.0000002  
0.0000002  
0.0000002  
0.0000002  
0.0000001  
0.0000001

$^{15}\text{N}$  [—]



Time [Myr]

$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.00265

0.0026

0.00255

0.0025

0.00245

0.0024

0.00235

0.0023

$[\text{O}16]$

0

2

4

6

8

10

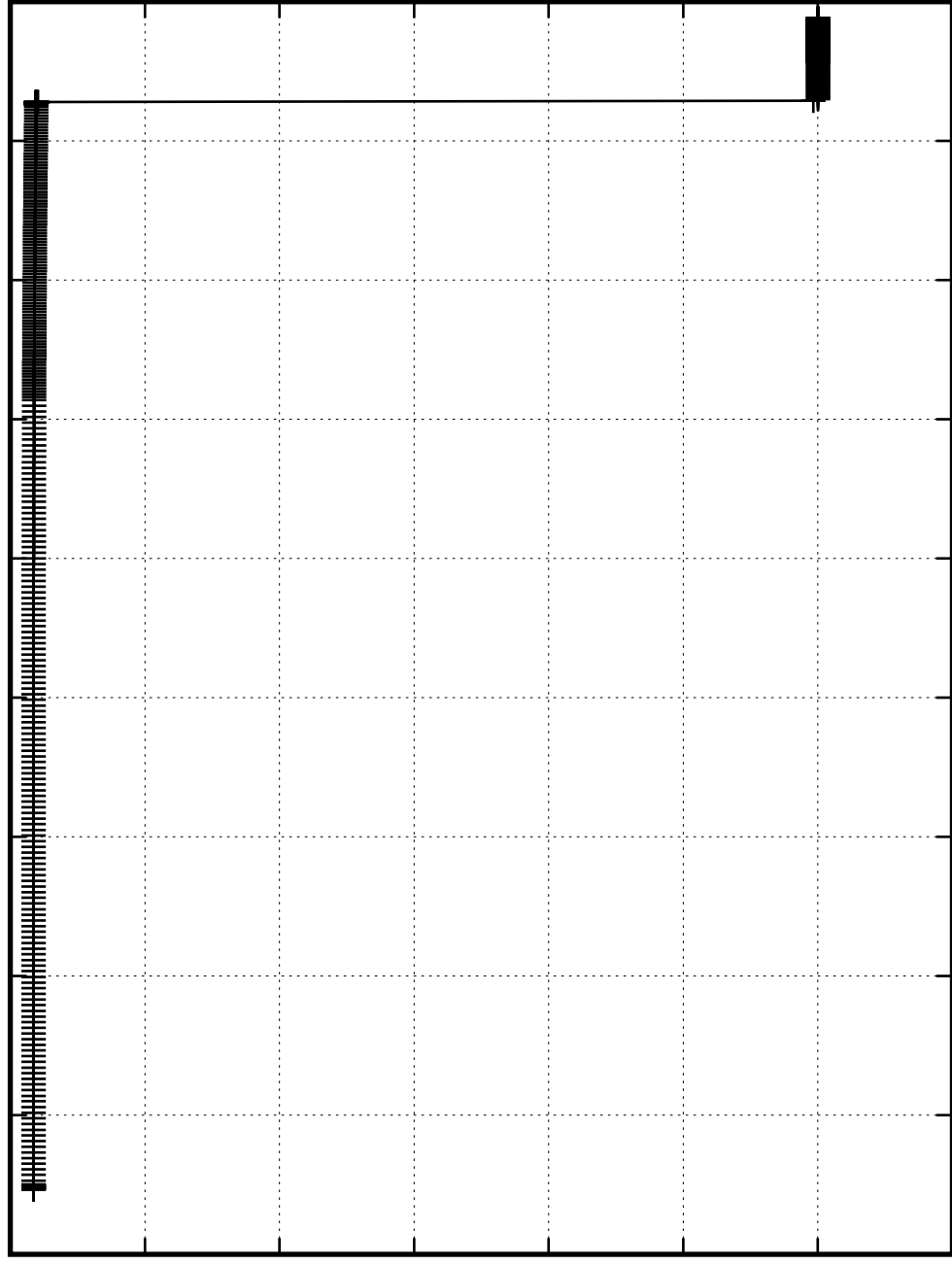
12

14

16

18

Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.000008

0.000007

0.000006

0.000005

0.000004

0.000003

0.000002

0.000001

$^{17}\text{O}$  [ $\text{--}$ ]

0

2

4

6

8

10

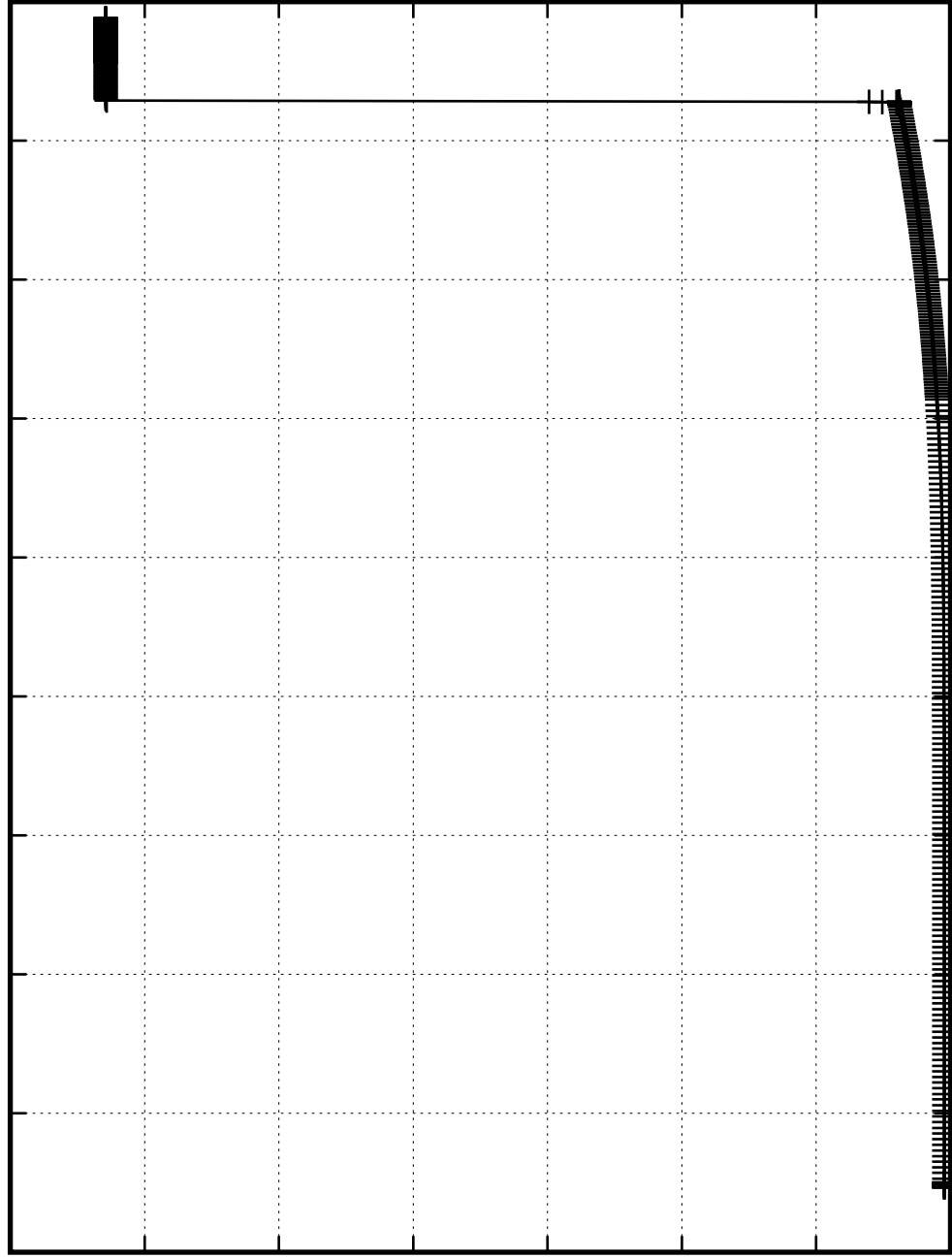
12

14

16

18

Time [Myr]

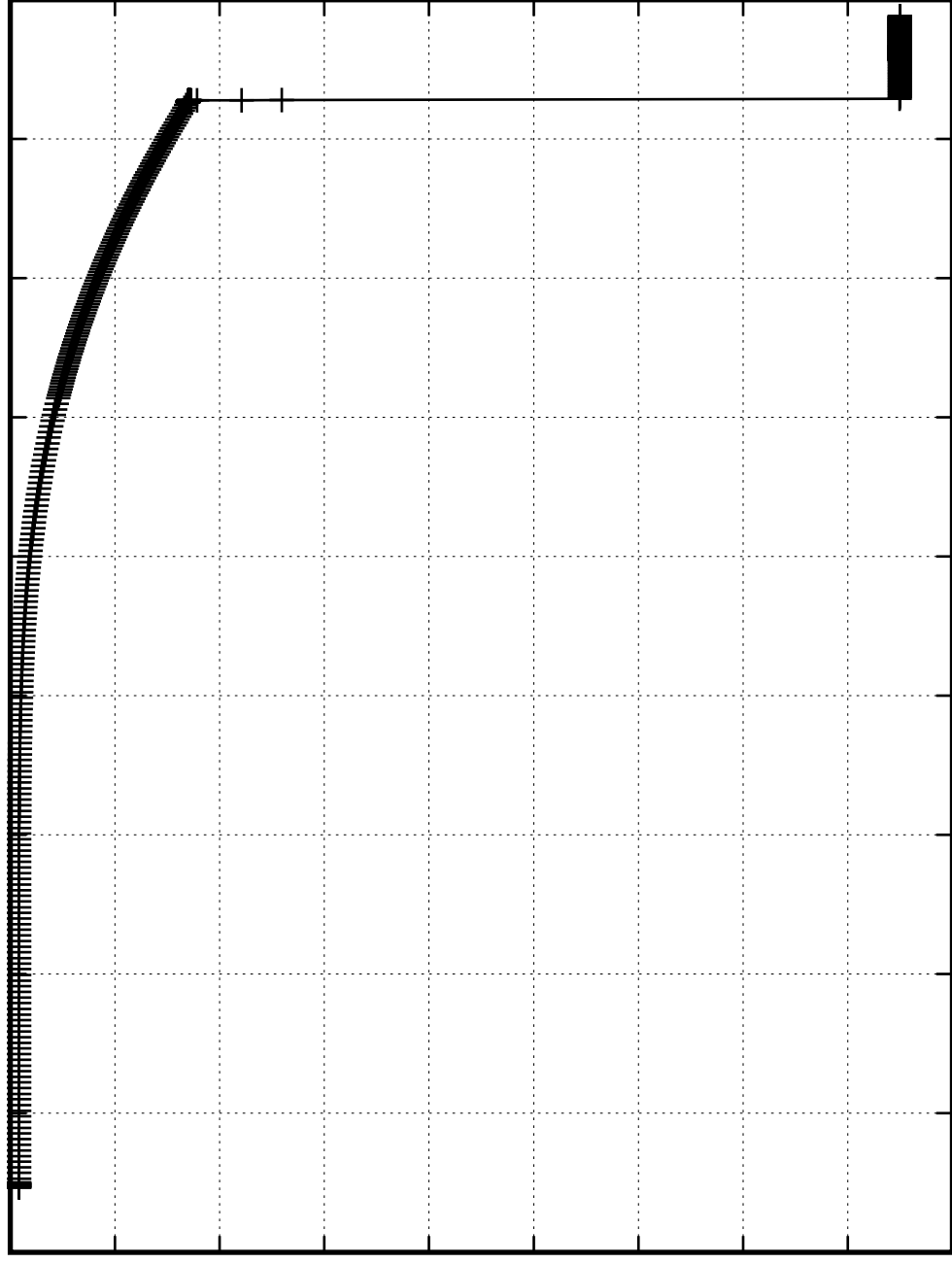


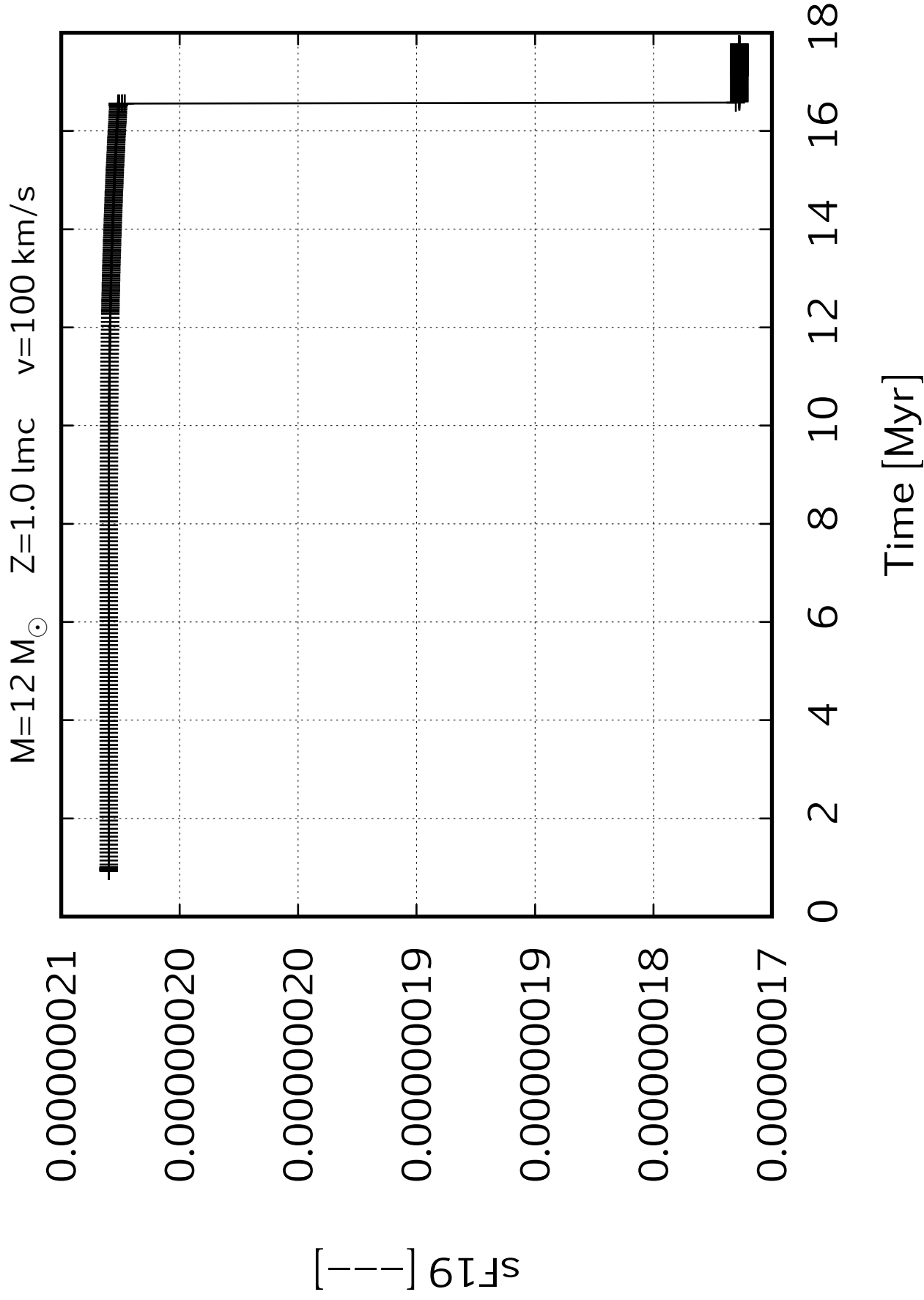
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

$[\text{O18}]$

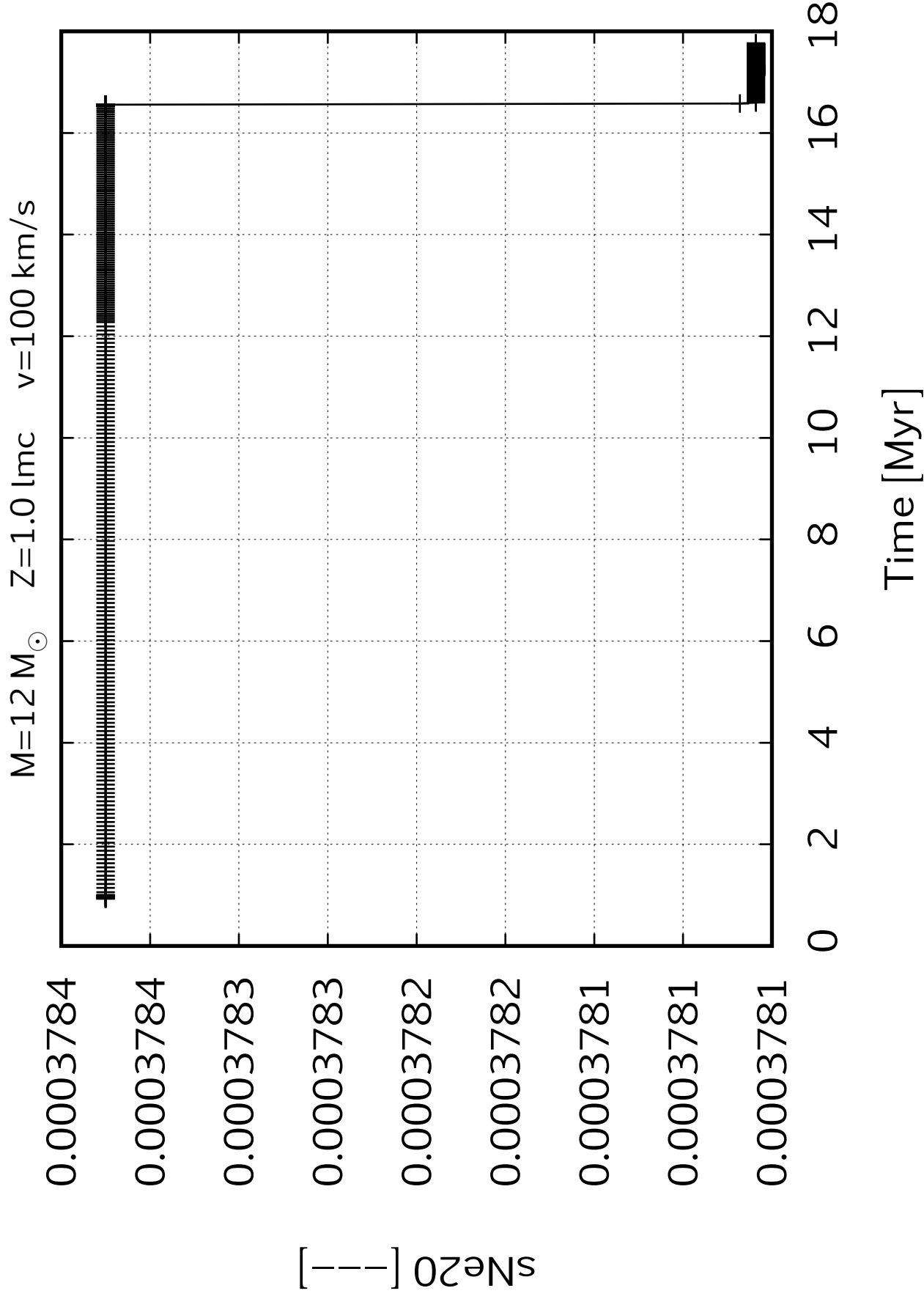
0 2 4 6 8 10 12 14 16 18

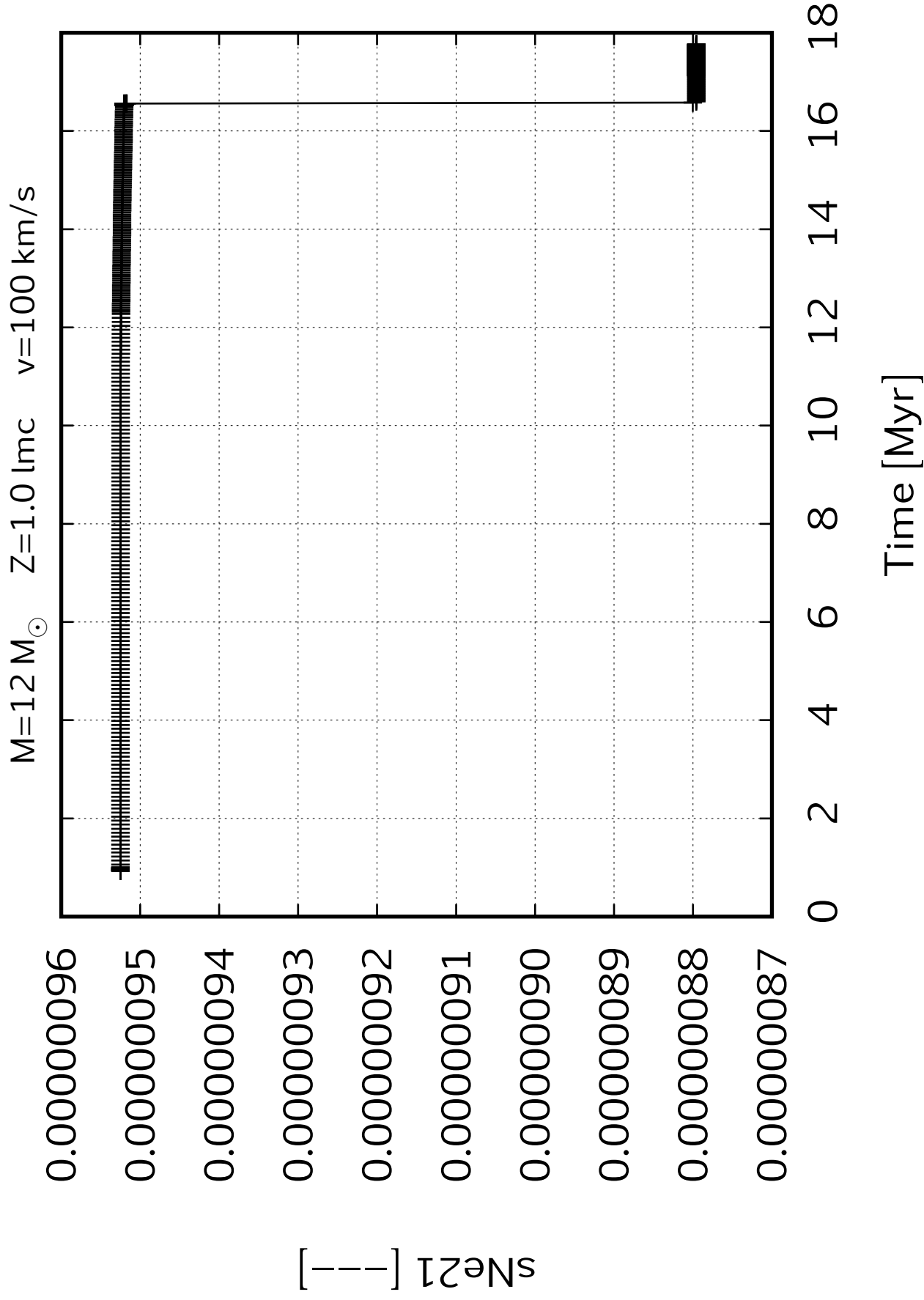
Time [Myr]











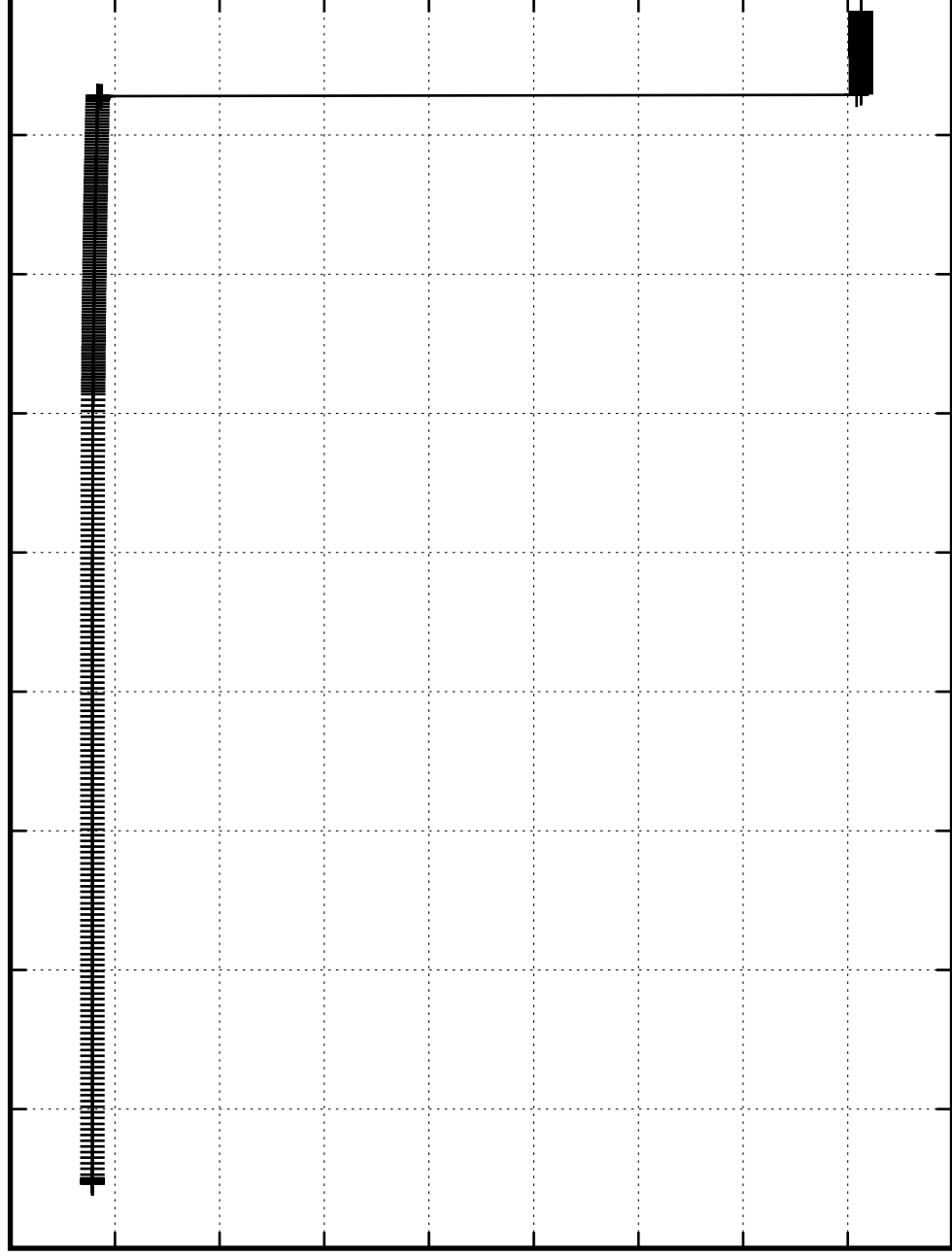
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

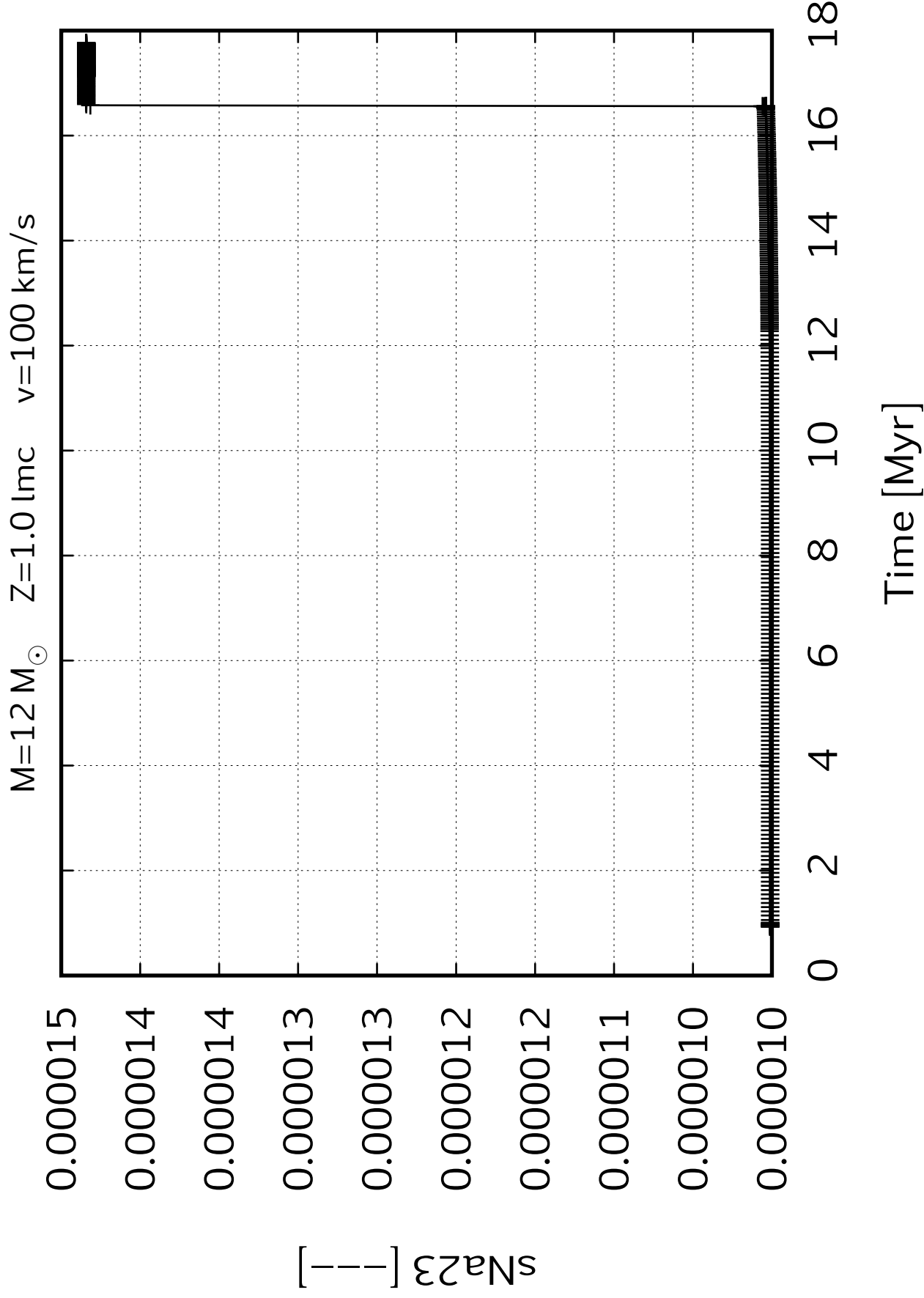
0.000031  
0.000030  
0.000030  
0.000029  
0.000029  
0.000028  
0.000028  
0.000027  
0.000027  
0.000027

$s_{\text{Ne}22}$  [—]

0 2 4 6 8 10 12 14 16 18

Time [Myr]





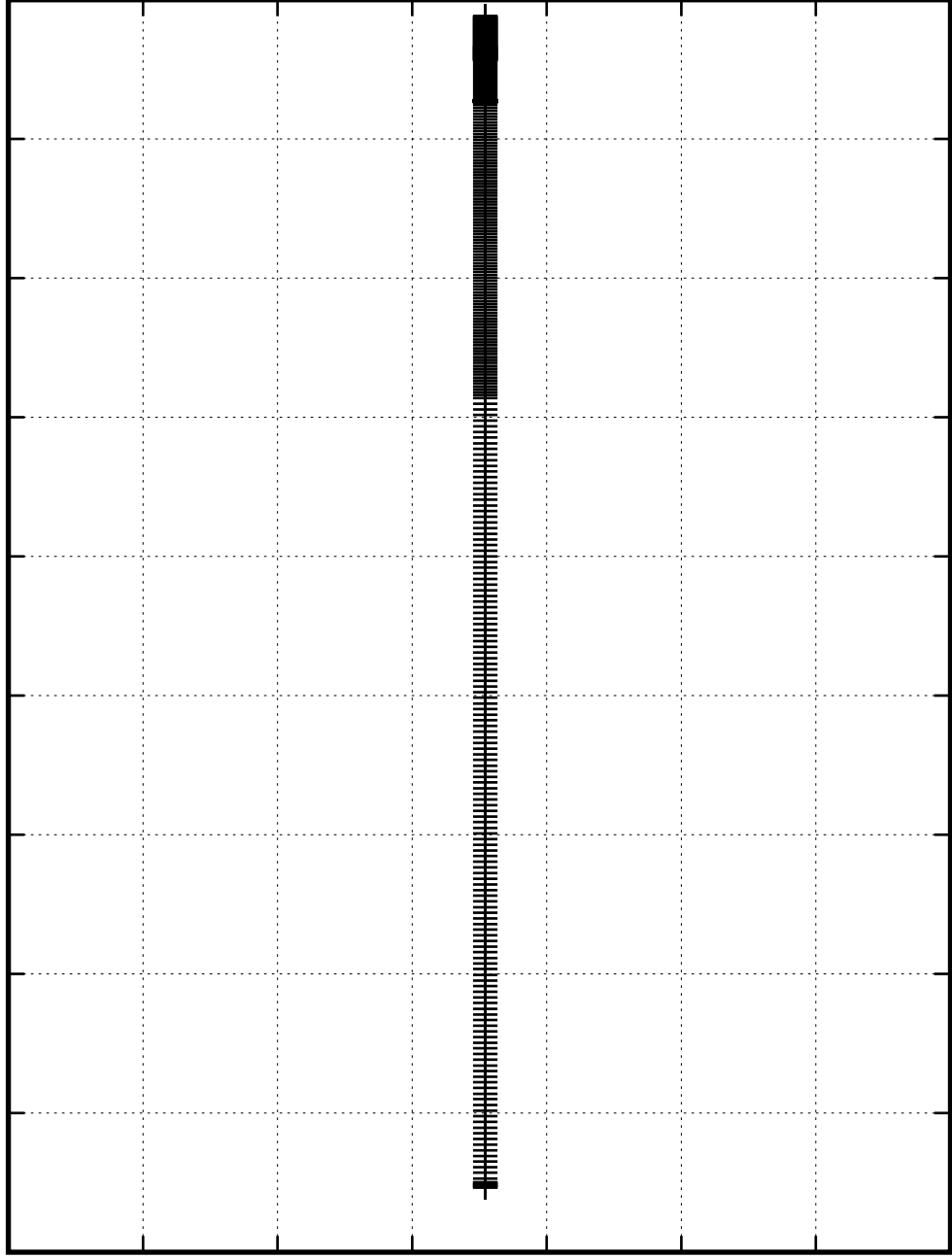
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.000159  
0.000159  
0.000158  
0.000158  
0.000157  
0.000157  
0.000156  
0.000155

$sM_{24}^{sg} [---]$

0 2 4 6 8 10 12 14 16 18

Time [Myr]



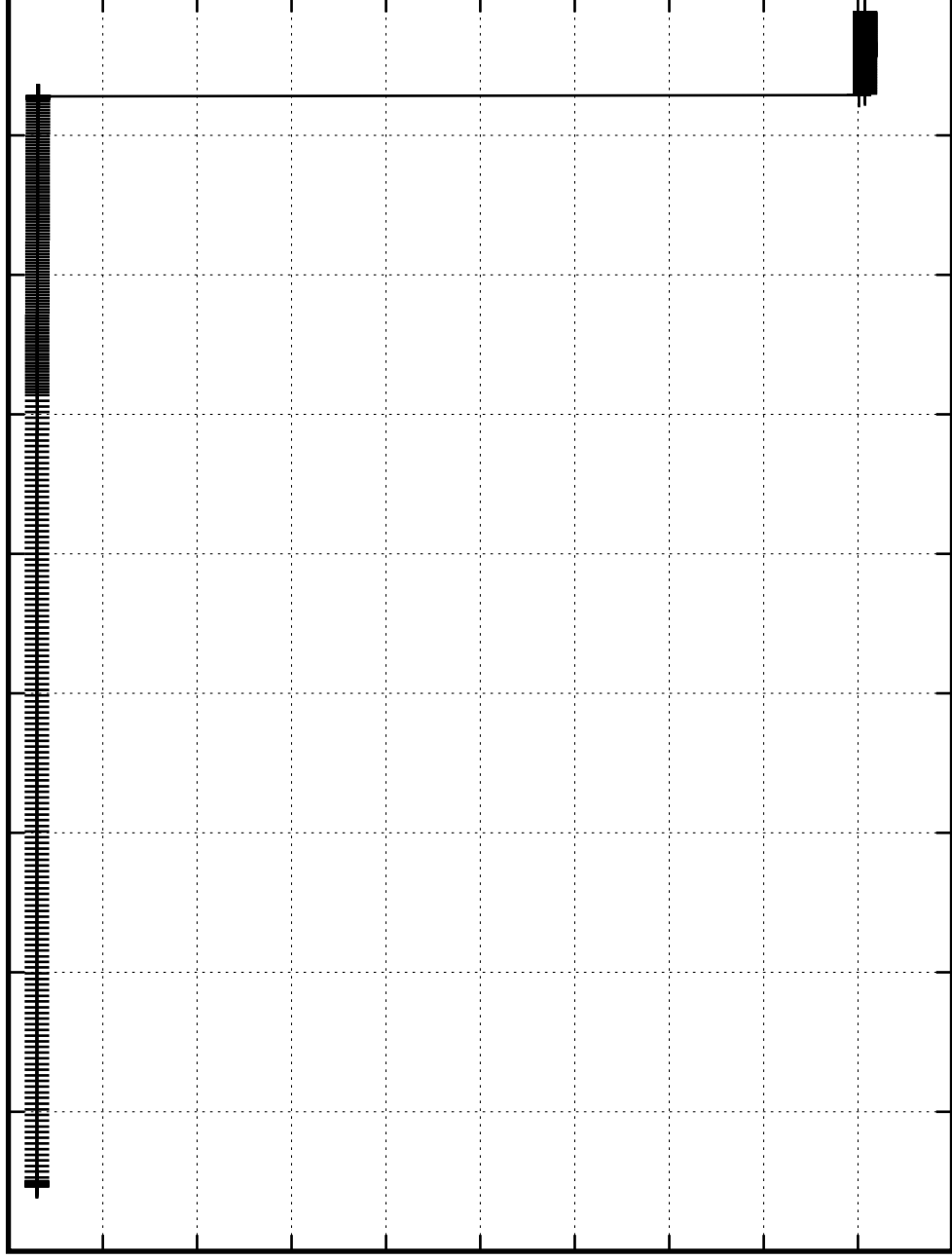
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.0000021  
0.0000021  
0.0000020  
0.0000020  
0.0000020  
0.0000020  
0.0000020  
0.0000019  
0.0000019  
0.0000019  
0.0000019

$^{25}\text{Mg}$  [—]

0   2   4   6   8   10   12   14   16   18

Time [Myr]



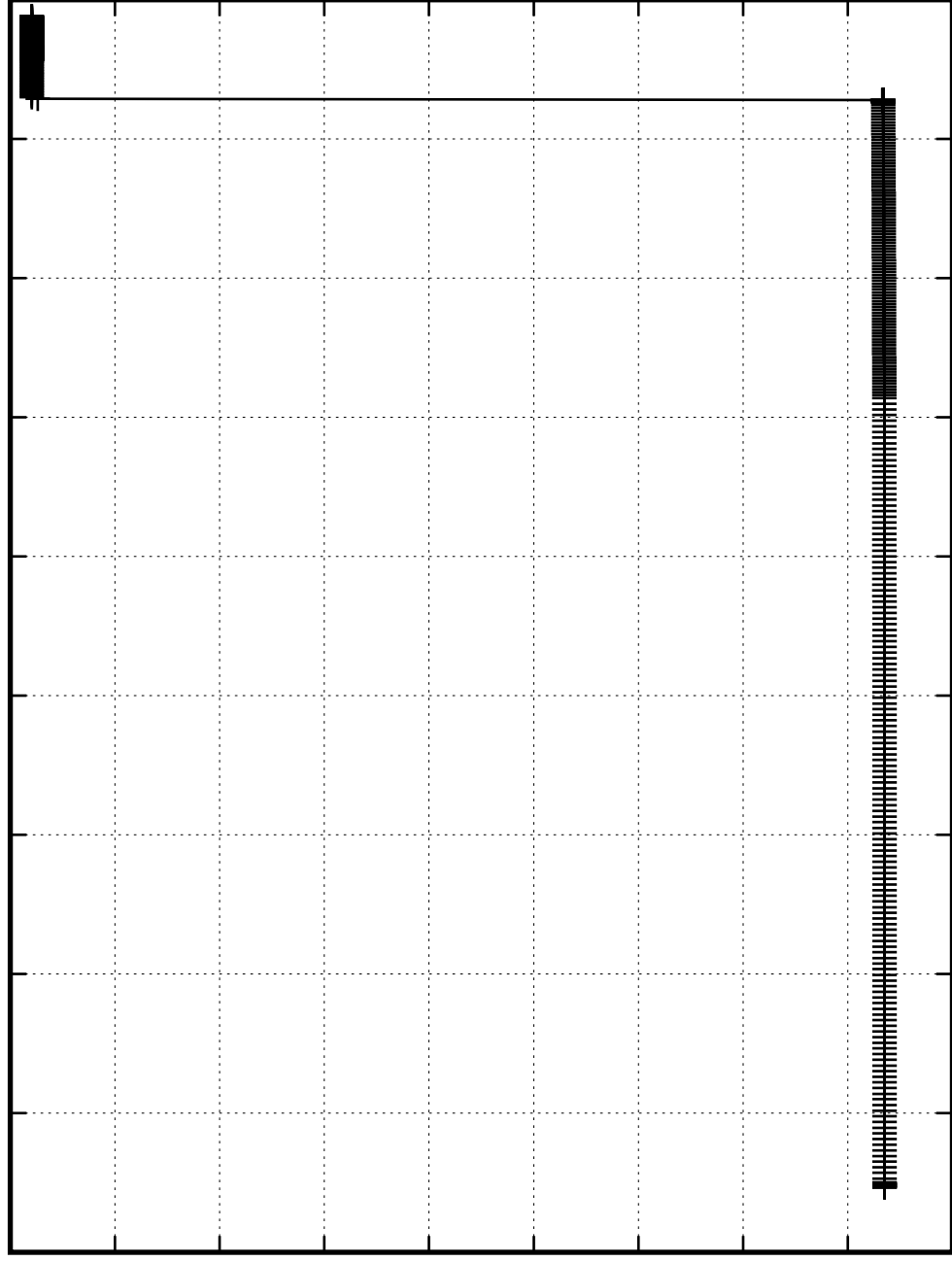
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.000025  
0.000025  
0.000025  
0.000025  
0.000025  
0.000024  
0.000024  
0.000024  
0.000024  
0.000024

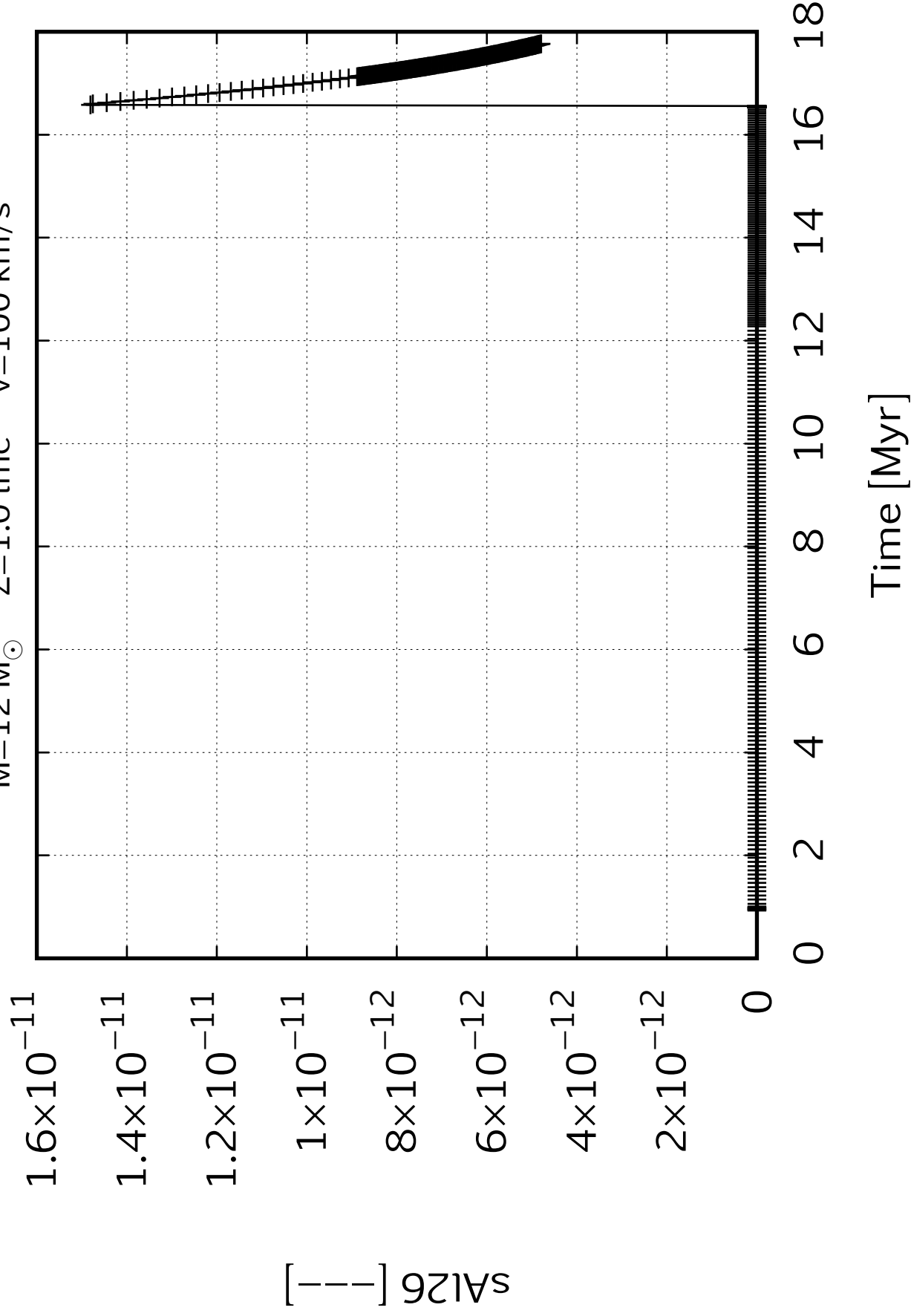
$[\text{--}]^{\text{Mg26}}_{\text{s}}$

0   2   4   6   8   10   12   14   16   18

Time [Myr]

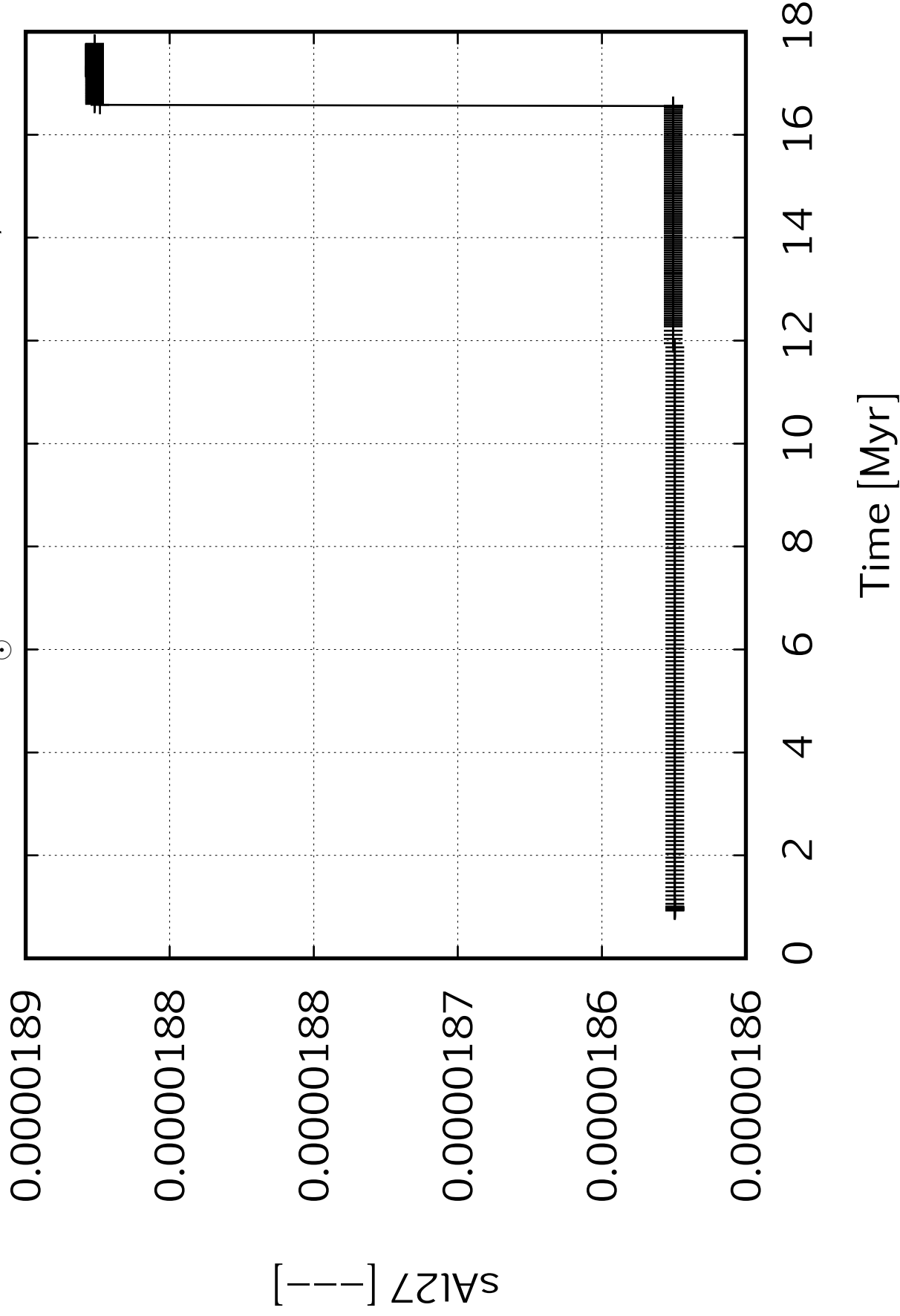


$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s





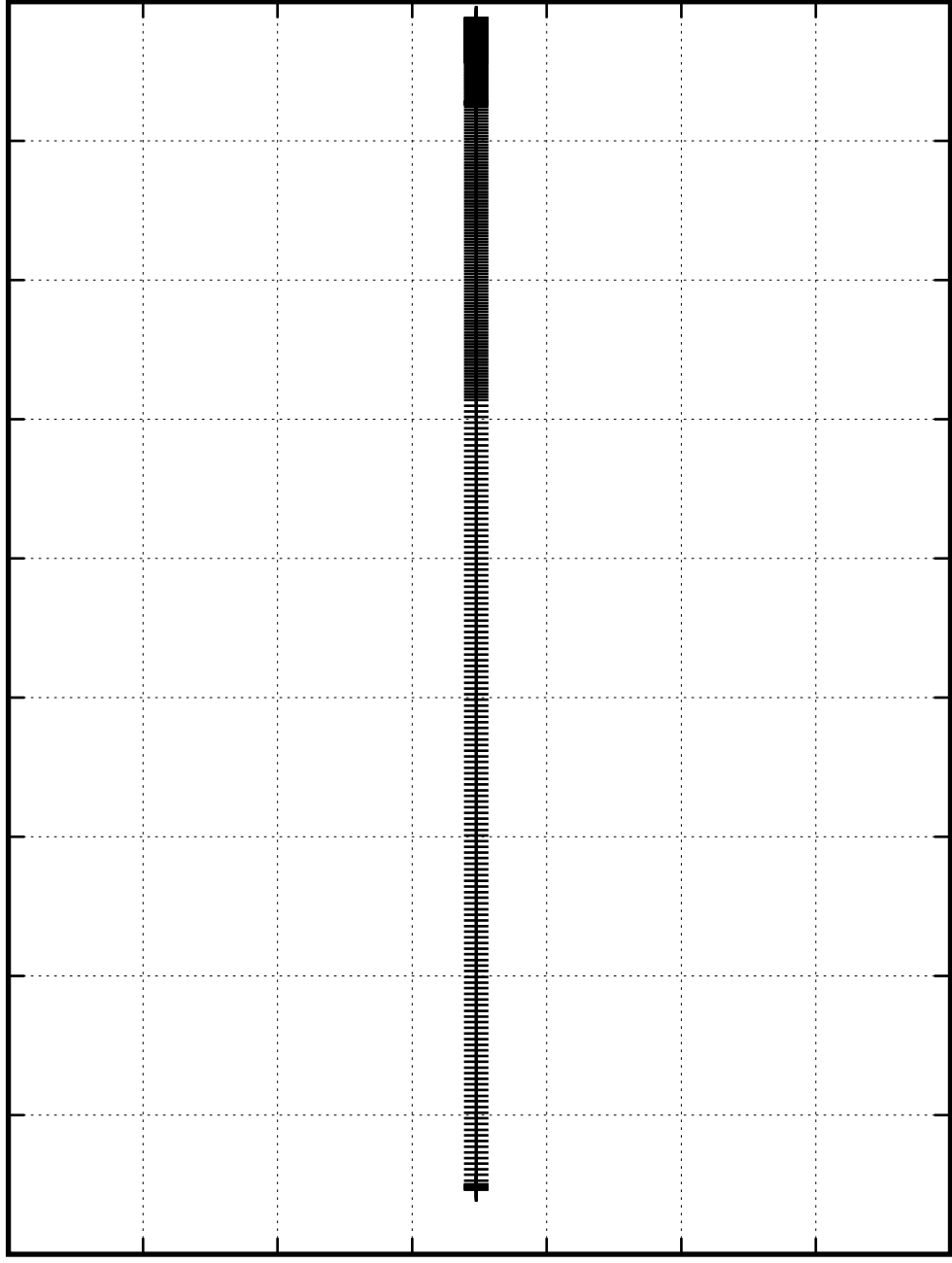
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

$[S_{28}]$

0.000306  
0.000305  
0.000304  
0.000303  
0.000302  
0.000301  
0.000300  
0.000299



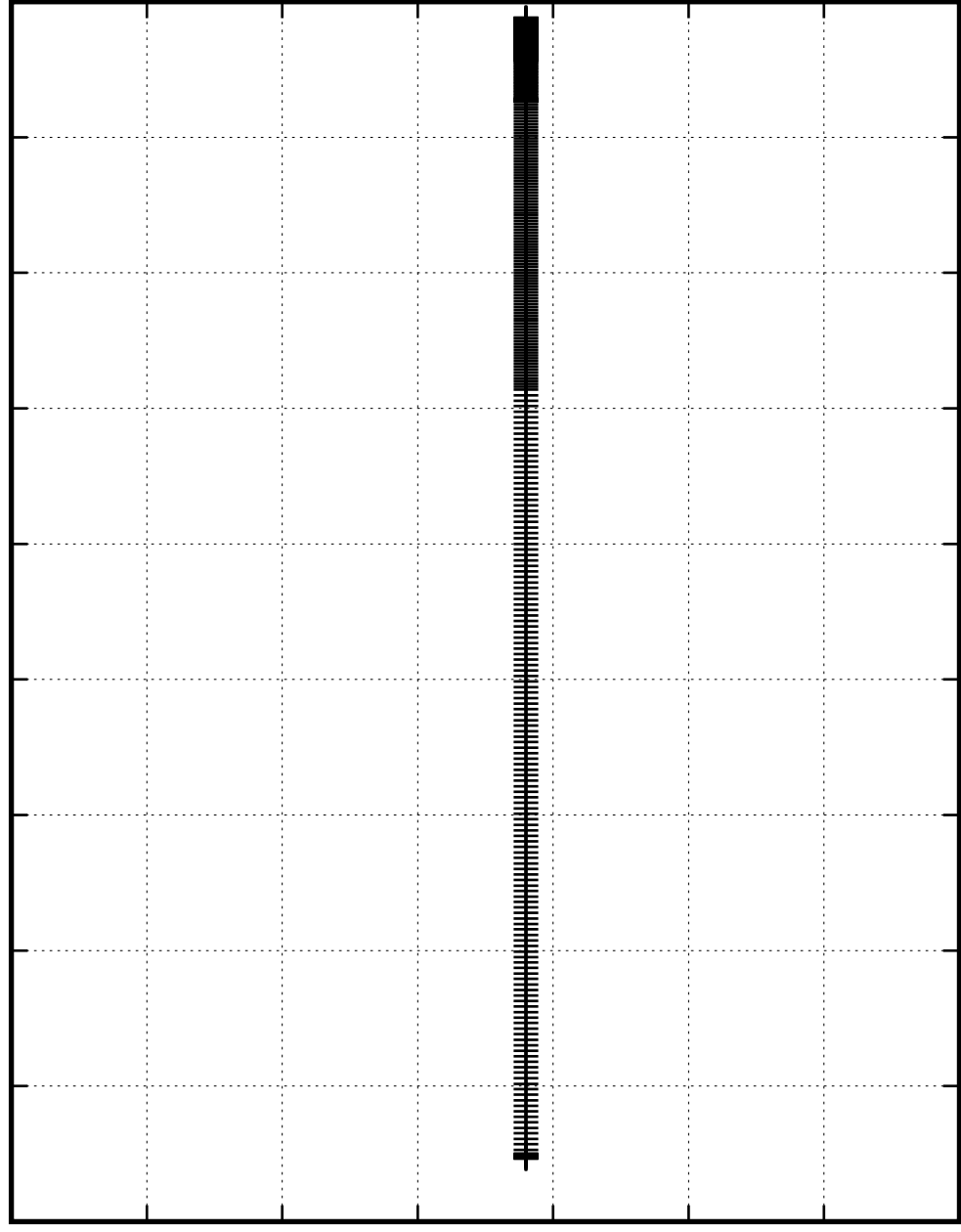
0 2 4 6 8 10 12 14 16 18

Time [Myr]

$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.0000161  
0.0000161  
0.0000160  
0.0000160  
0.0000159  
0.0000159  
0.0000158  
0.0000157

[SII]  $\lambda$  2967



Time [Myr]

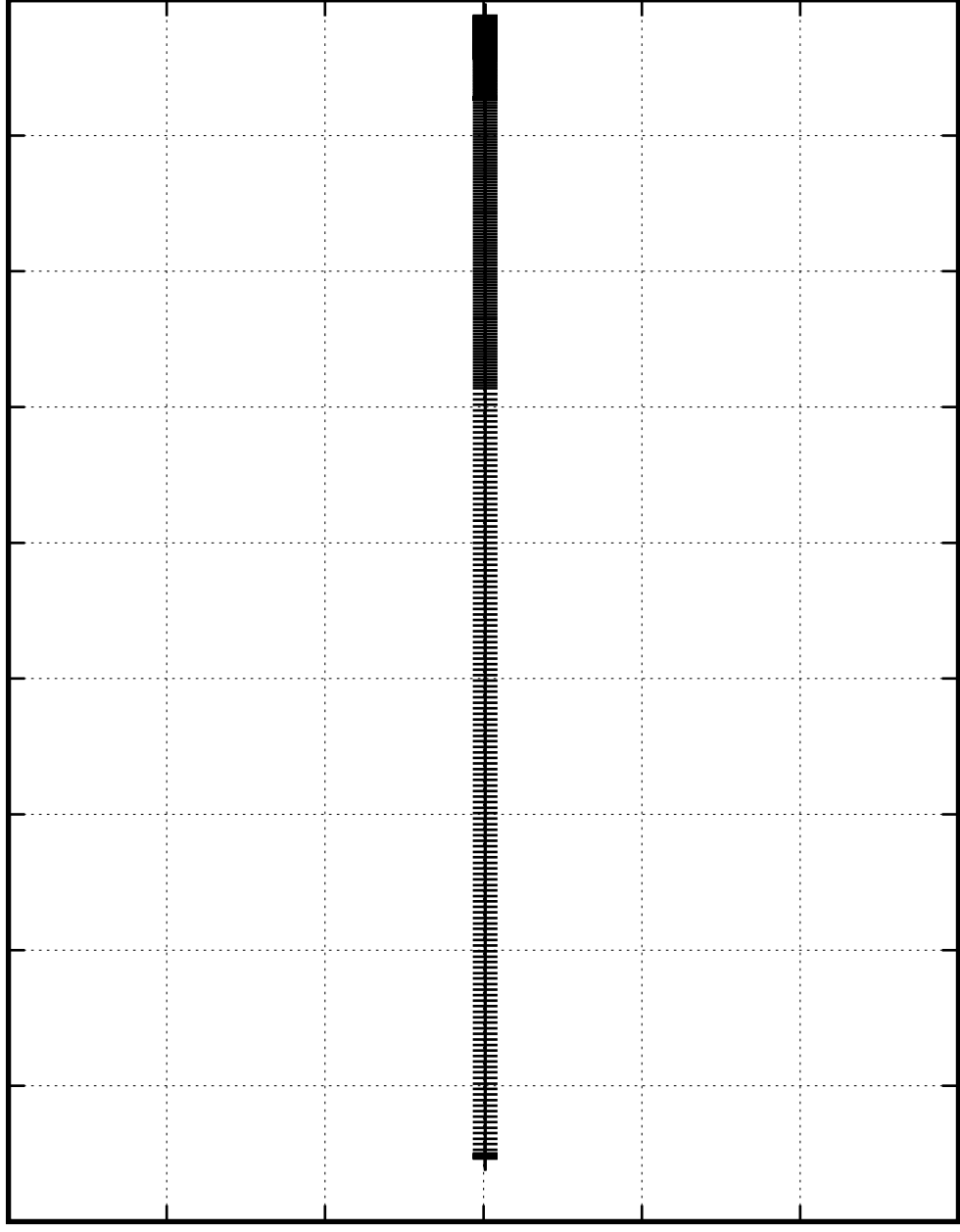
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100\text{ km/s}$

0.00000110  
0.00000109  
0.00000109  
0.00000108  
0.00000108  
0.00000107  
0.00000107

[S!30]---

0   2   4   6   8   10   12   14   16   18

Time [Myr]



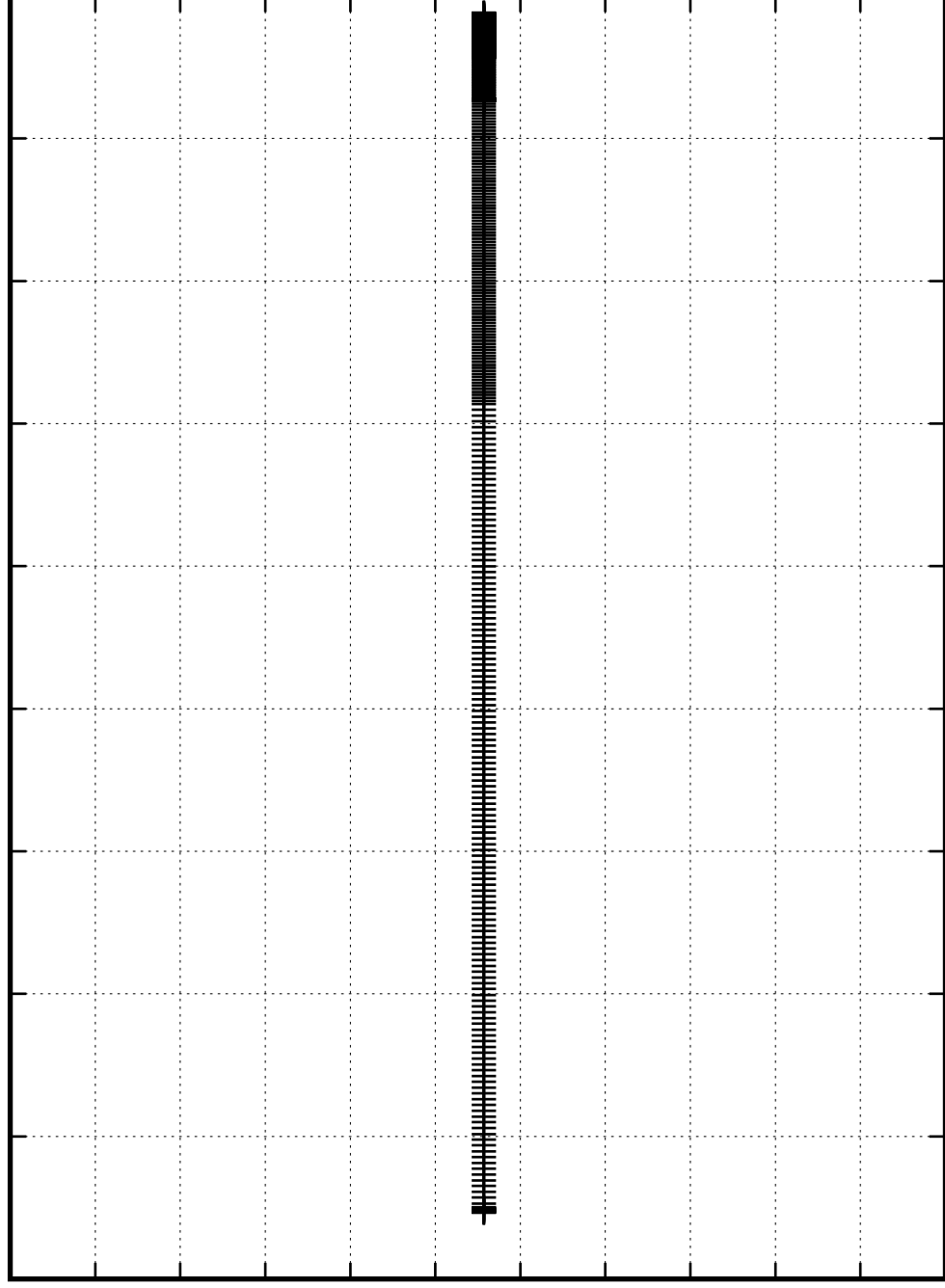
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

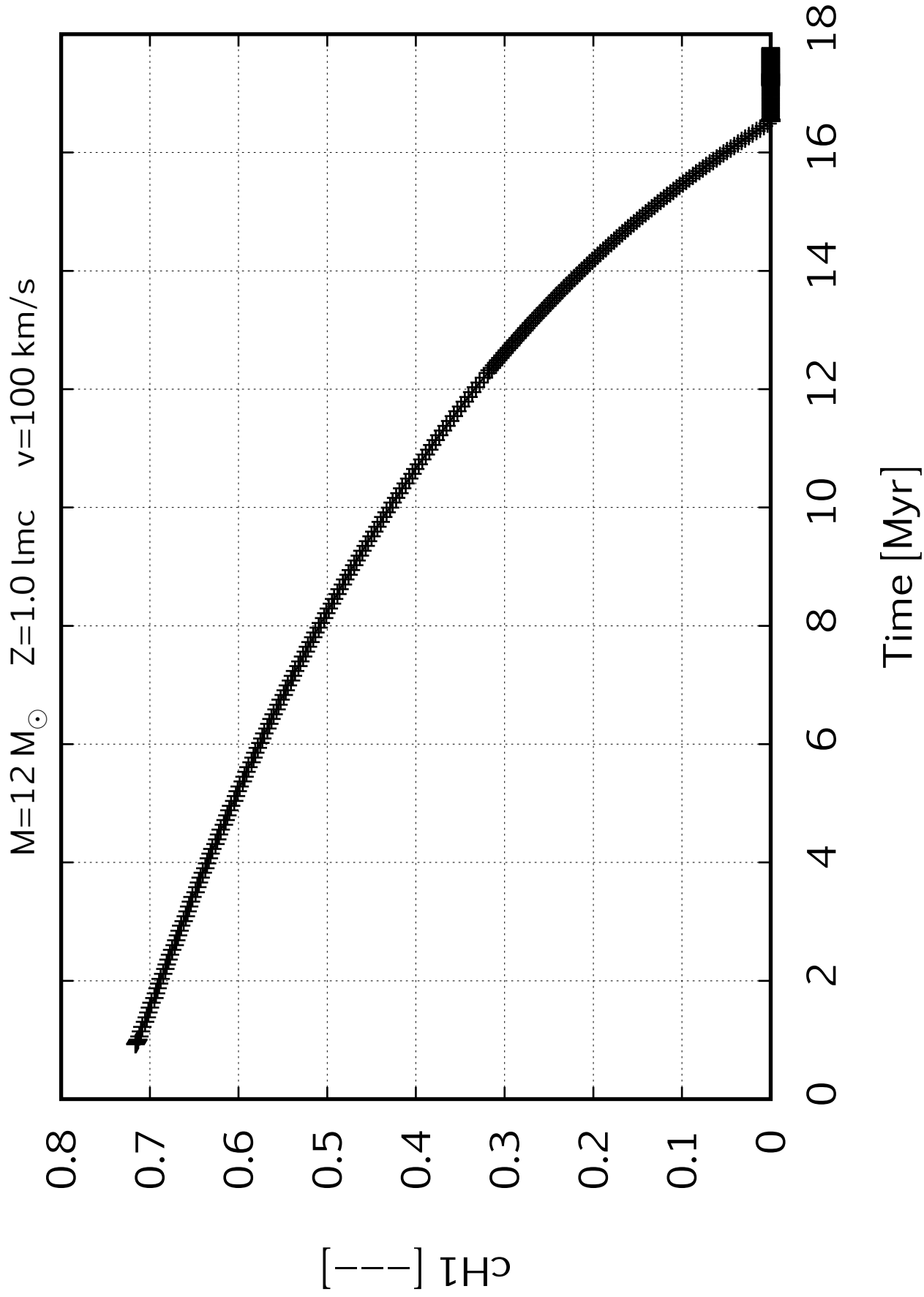
0.00047  
0.00047  
0.00047  
0.00047  
0.00047  
0.00047  
0.00046  
0.00046  
0.00046  
0.00046  
0.00046  
0.00046  
0.00046

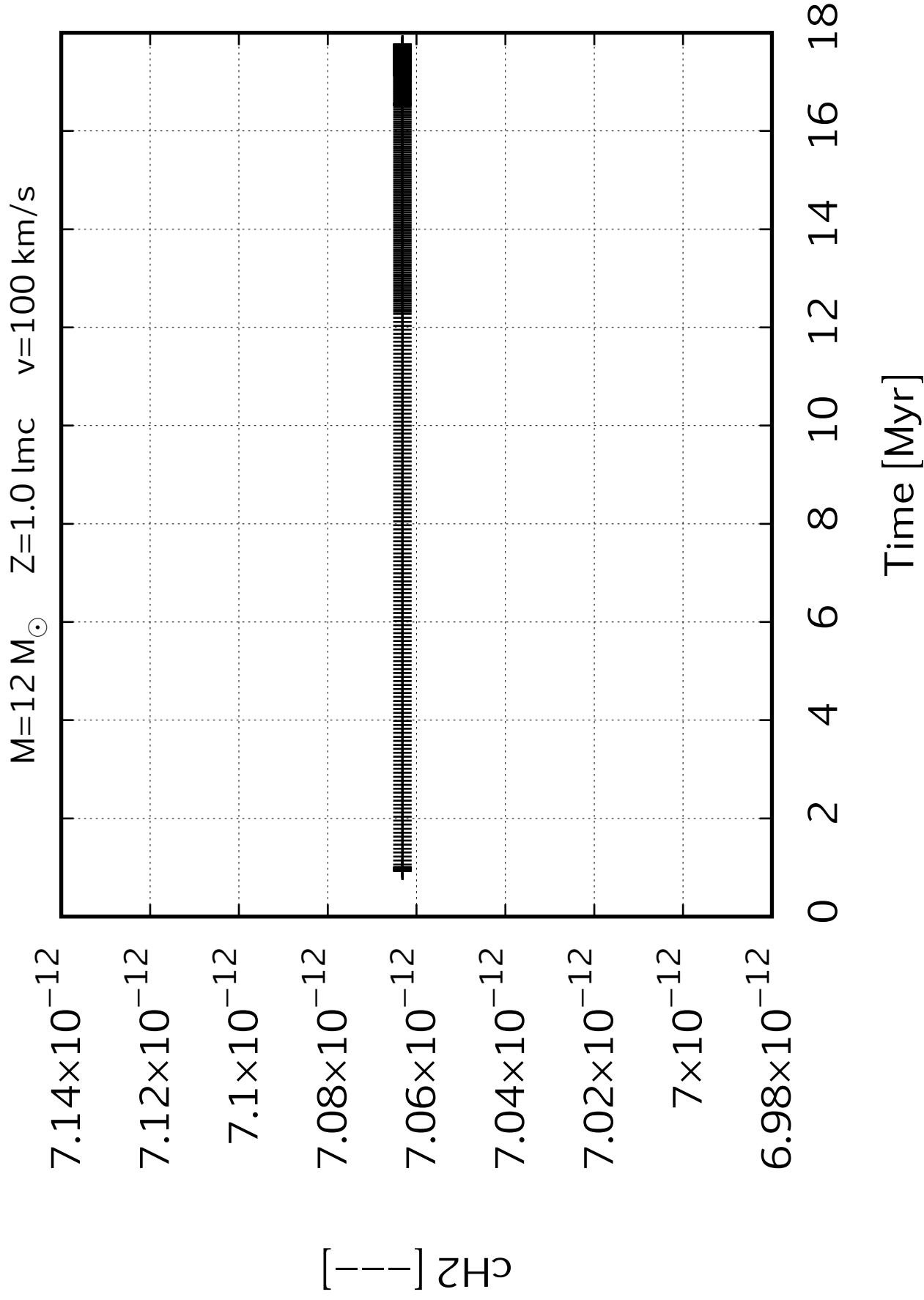
$[\text{Fe}/\text{H}]$

0   2   4   6   8   10   12   14   16   18

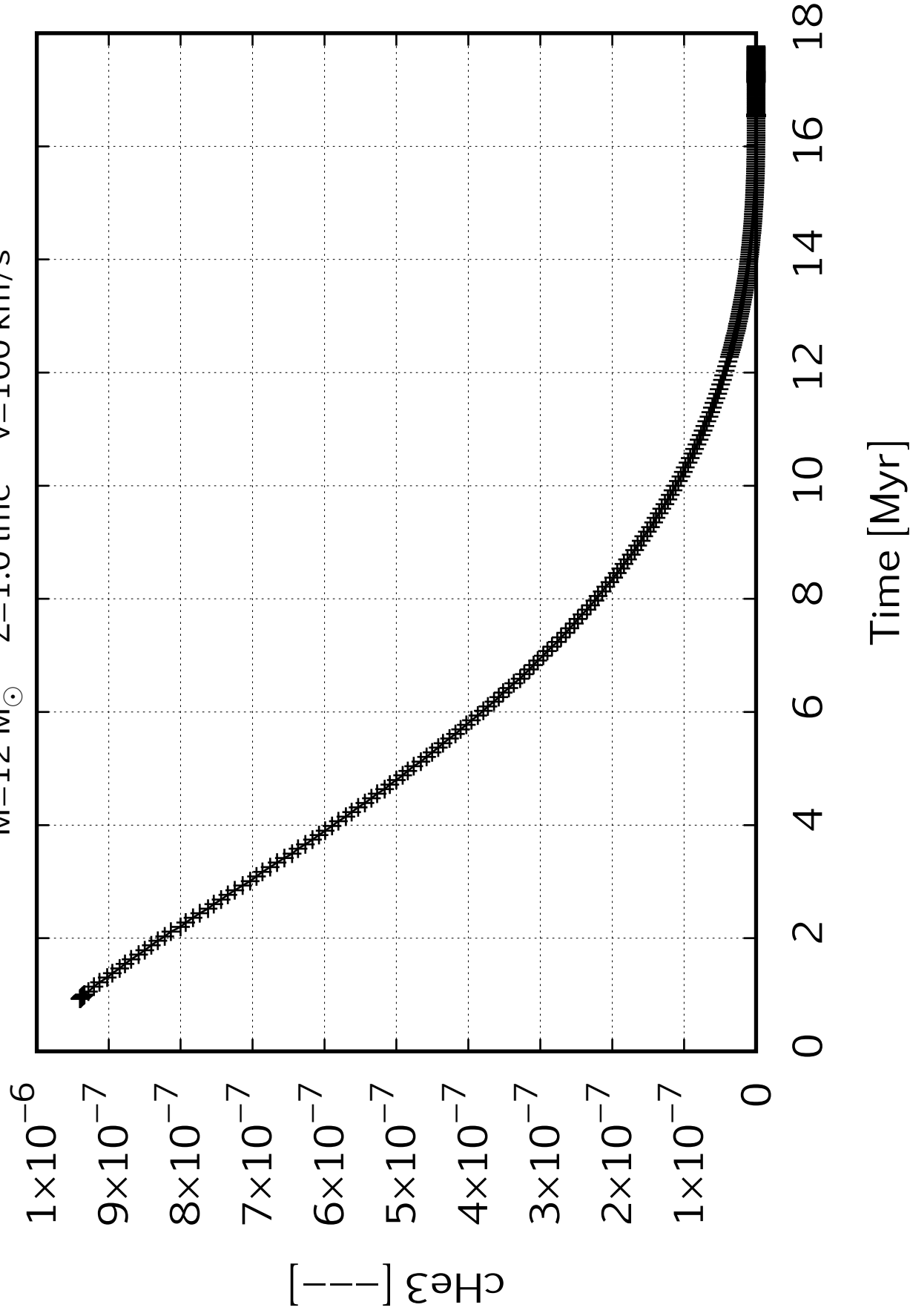
Time [Myr]



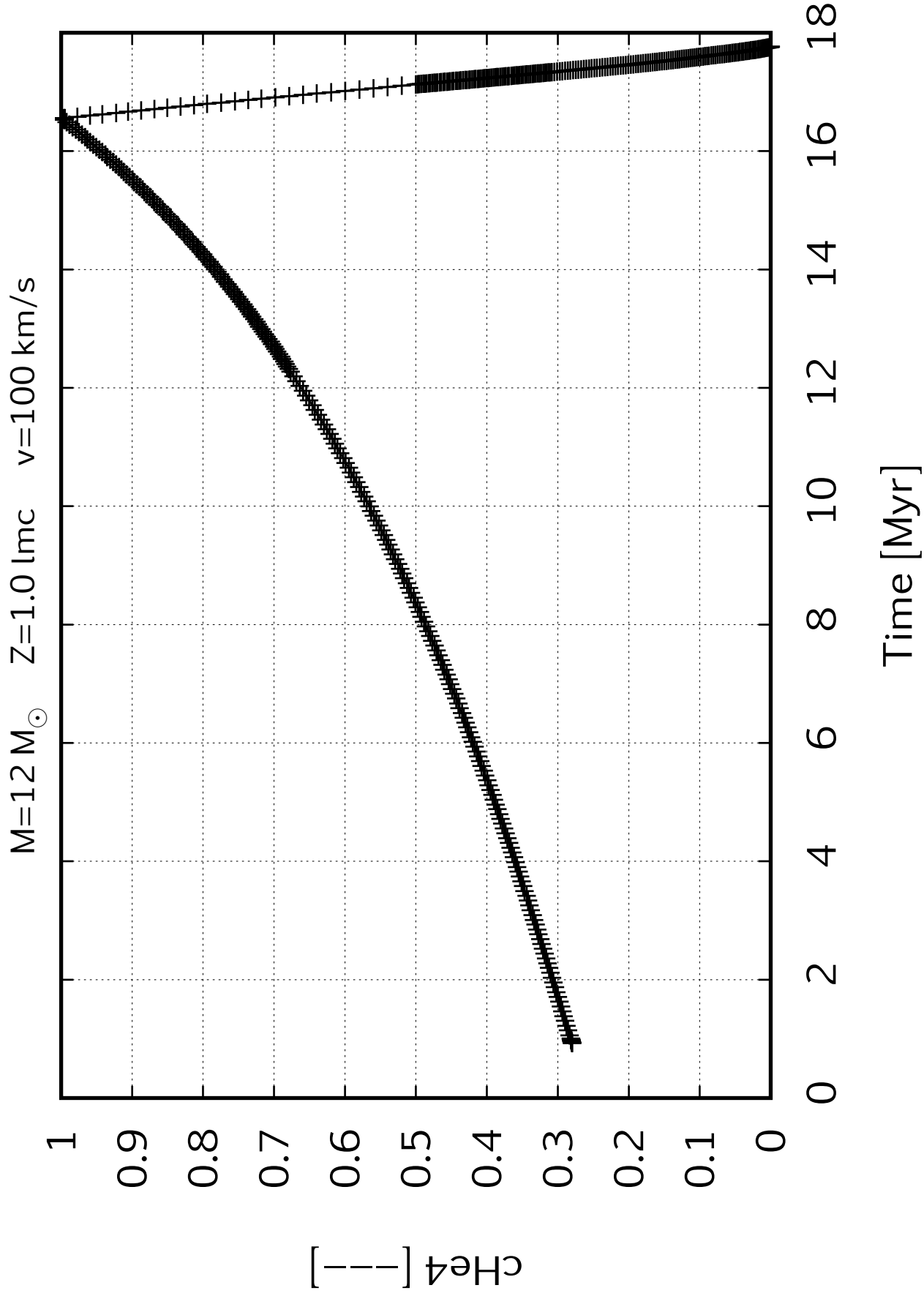




$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s







$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

$7 \times 10^{-48}$

$6 \times 10^{-48}$

$5 \times 10^{-48}$

$4 \times 10^{-48}$

$3 \times 10^{-48}$

$2 \times 10^{-48}$

$1 \times 10^{-48}$

0

$[\text{C II}]_{9.7\mu}$

0

2

4

6

8

10

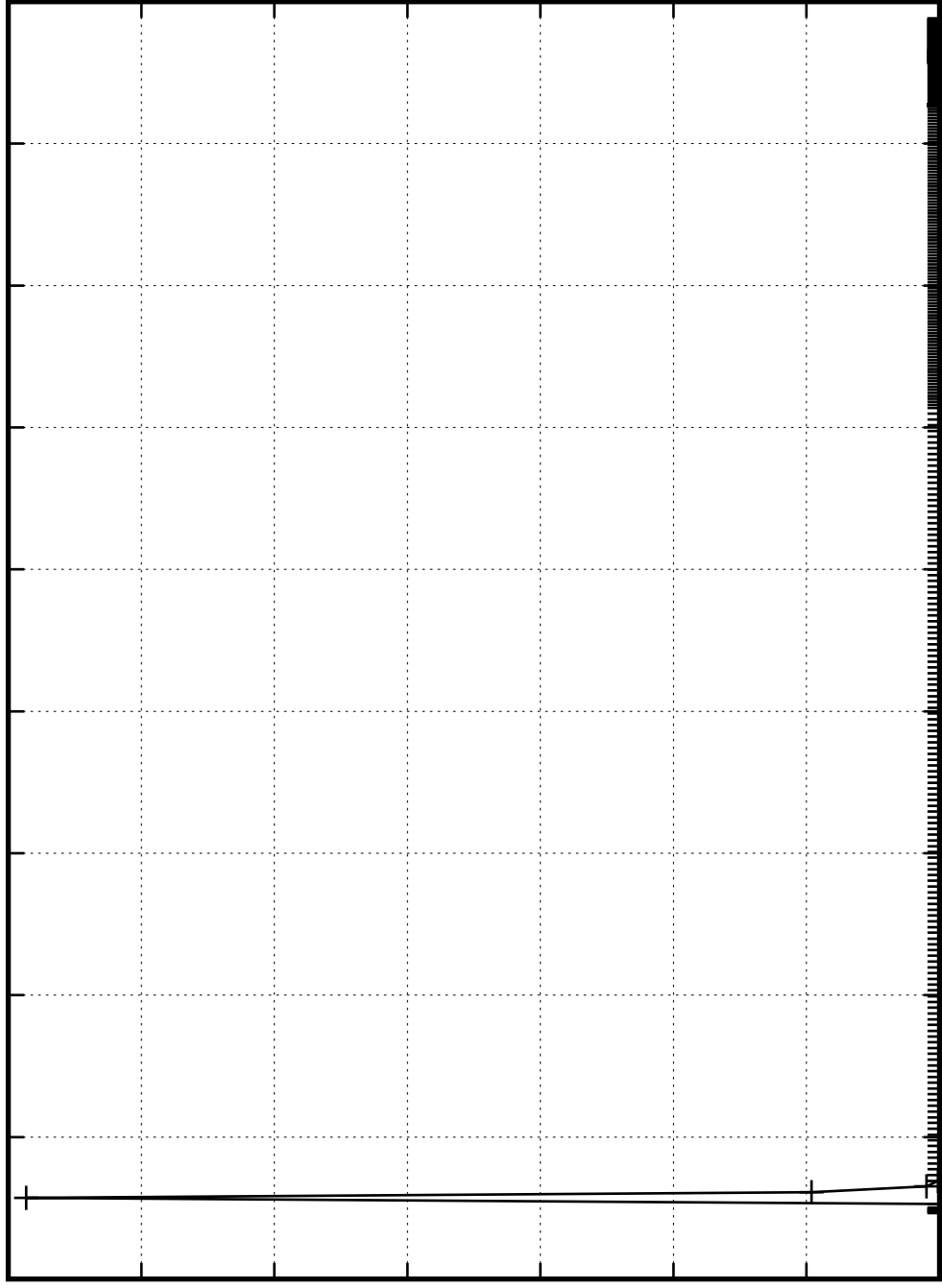
12

14

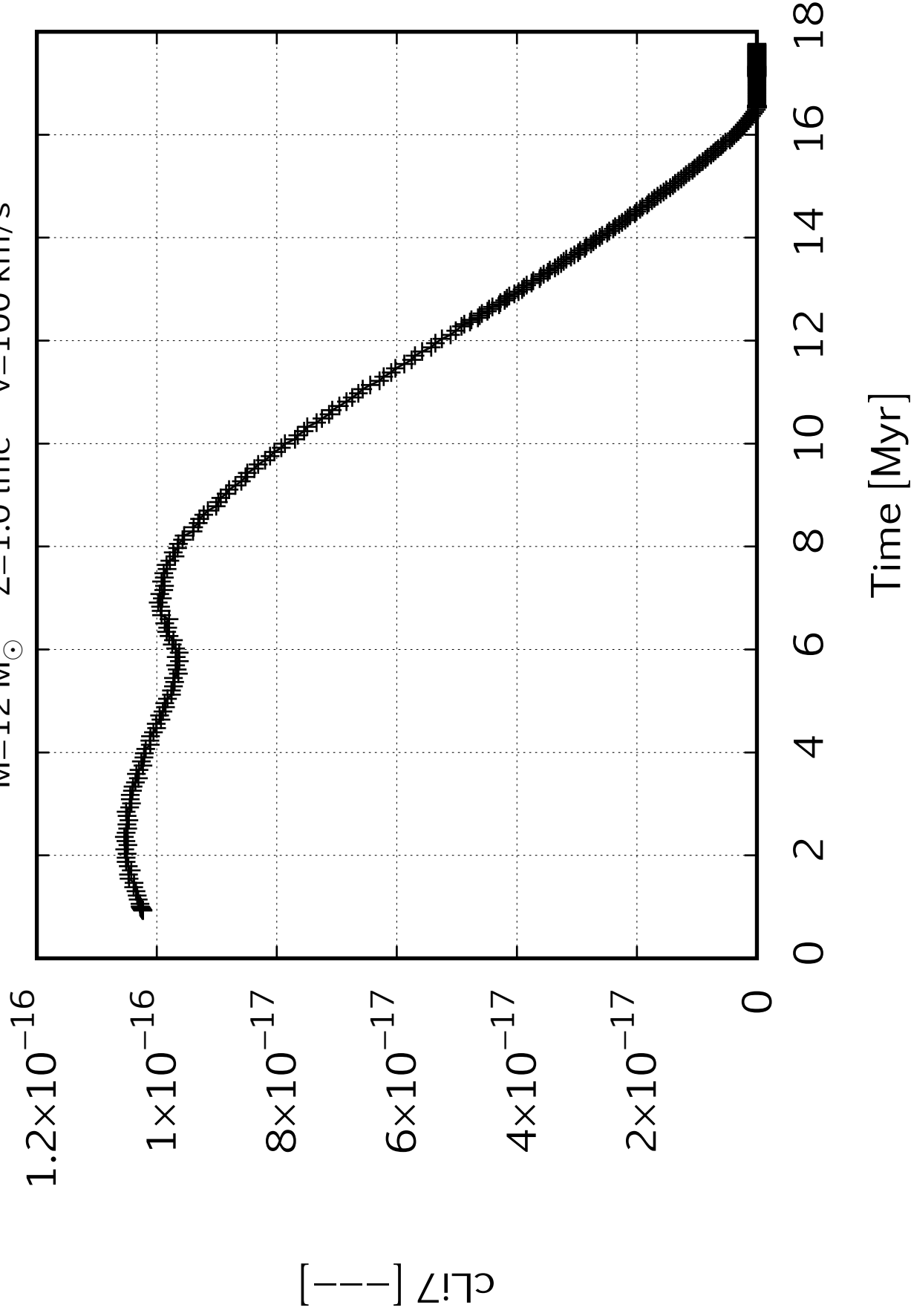
16

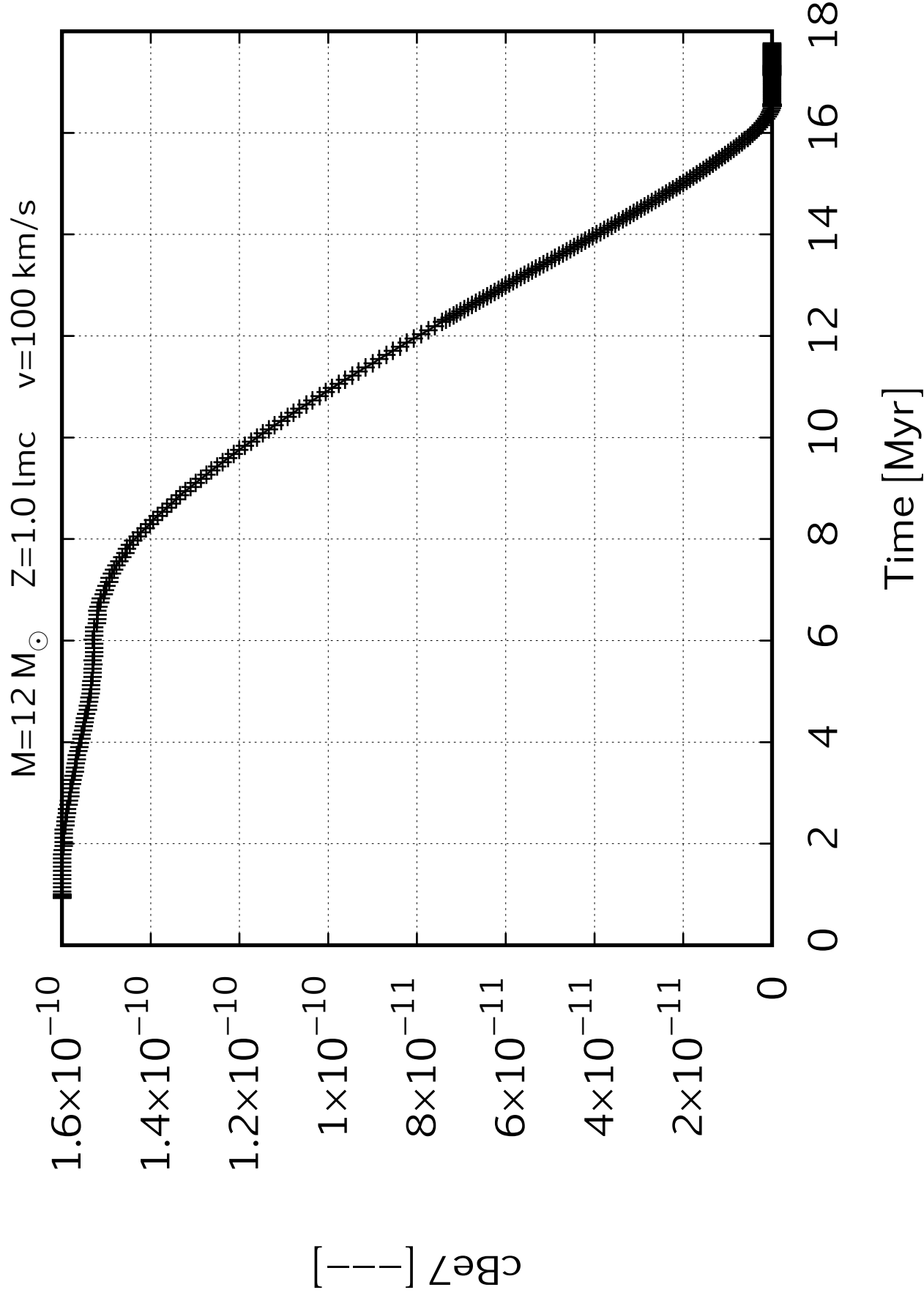
18

Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



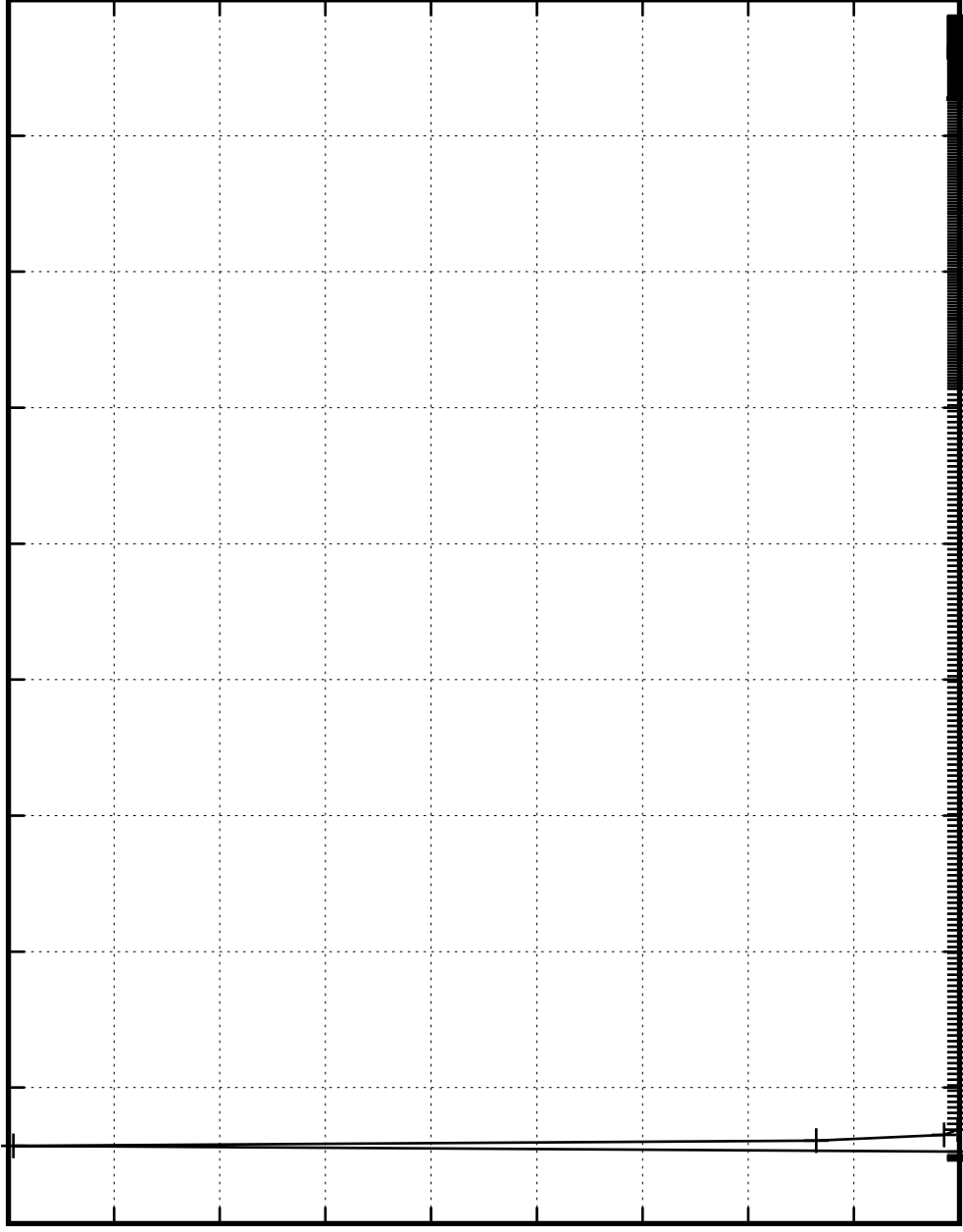


$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

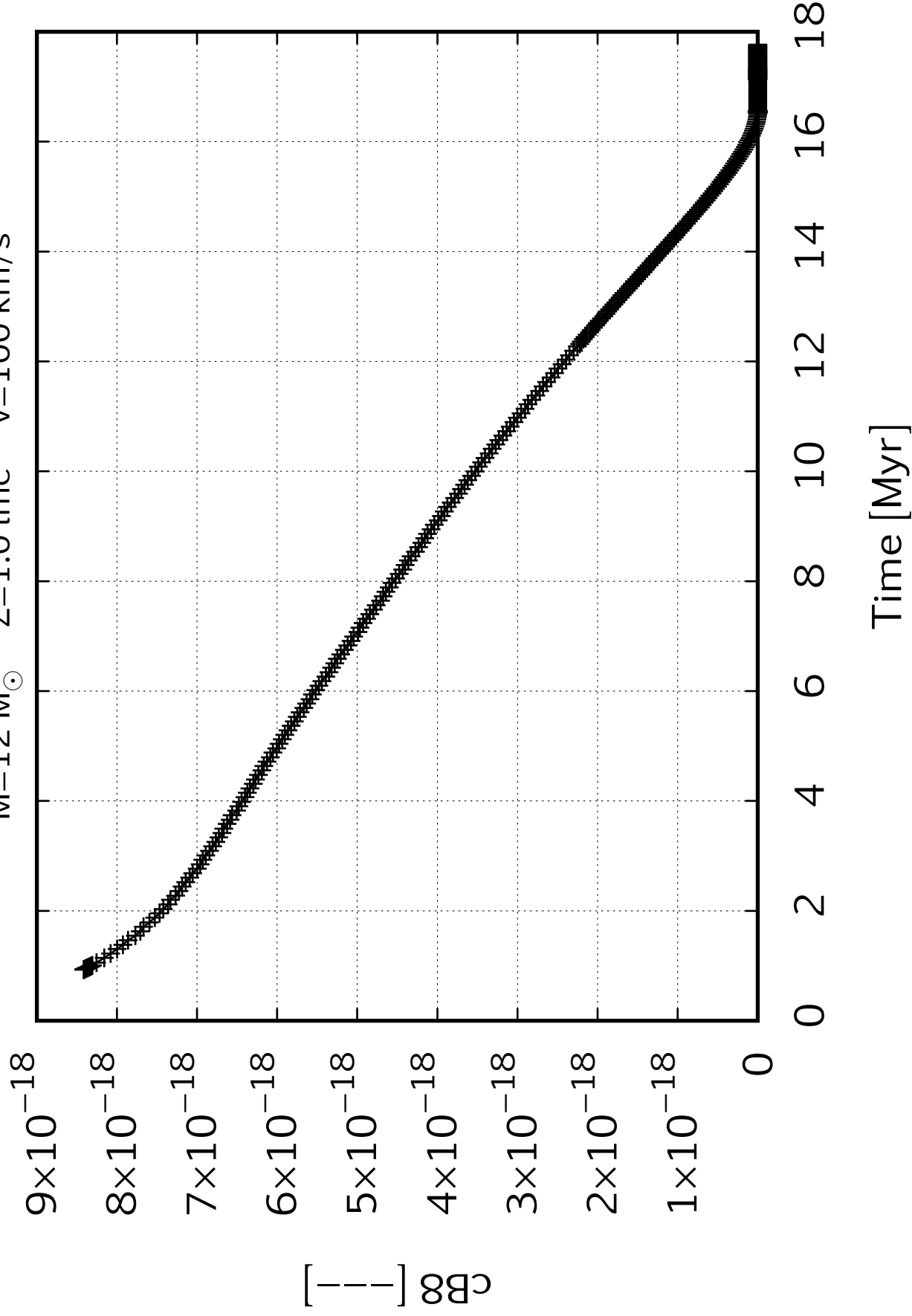
$[\text{Be}]$   
 $1.8 \times 10^{-44}$   
 $1.6 \times 10^{-44}$   
 $1.4 \times 10^{-44}$   
 $1.2 \times 10^{-44}$   
 $1 \times 10^{-44}$   
 $8 \times 10^{-45}$   
 $6 \times 10^{-45}$   
 $4 \times 10^{-45}$   
 $2 \times 10^{-45}$   
0

Time [Myr]

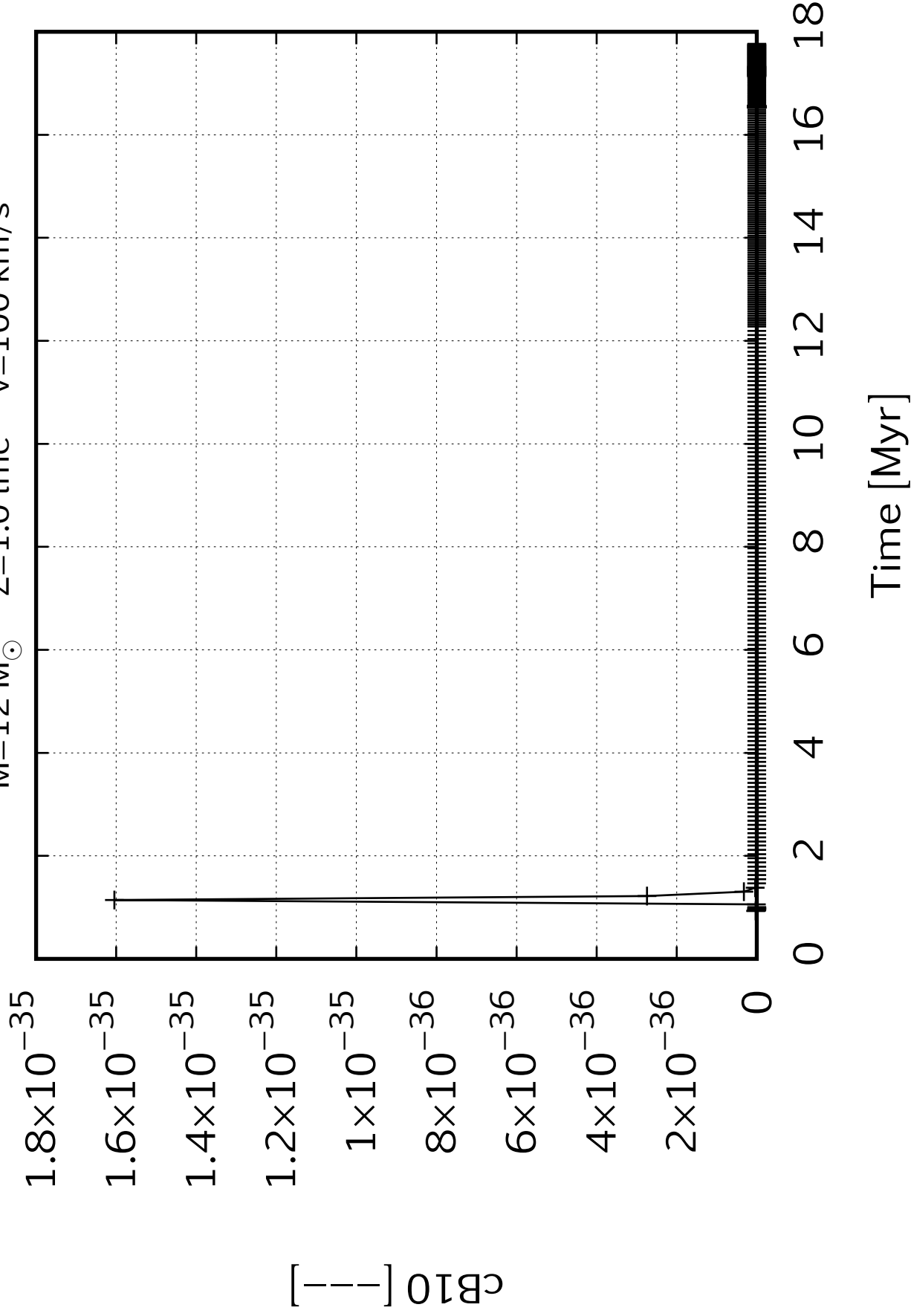
0 2 4 6 8 10 12 14 16 18

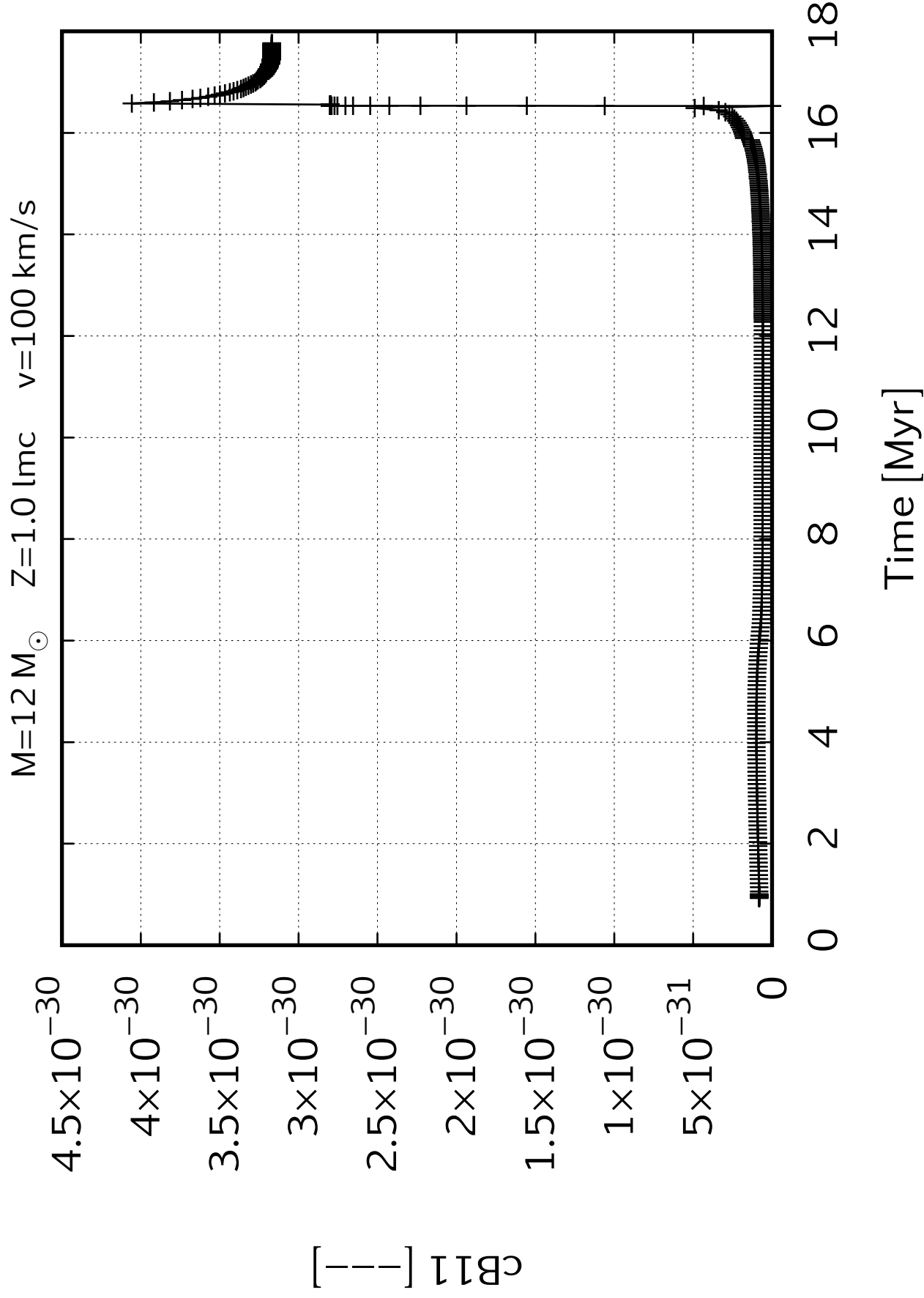


$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

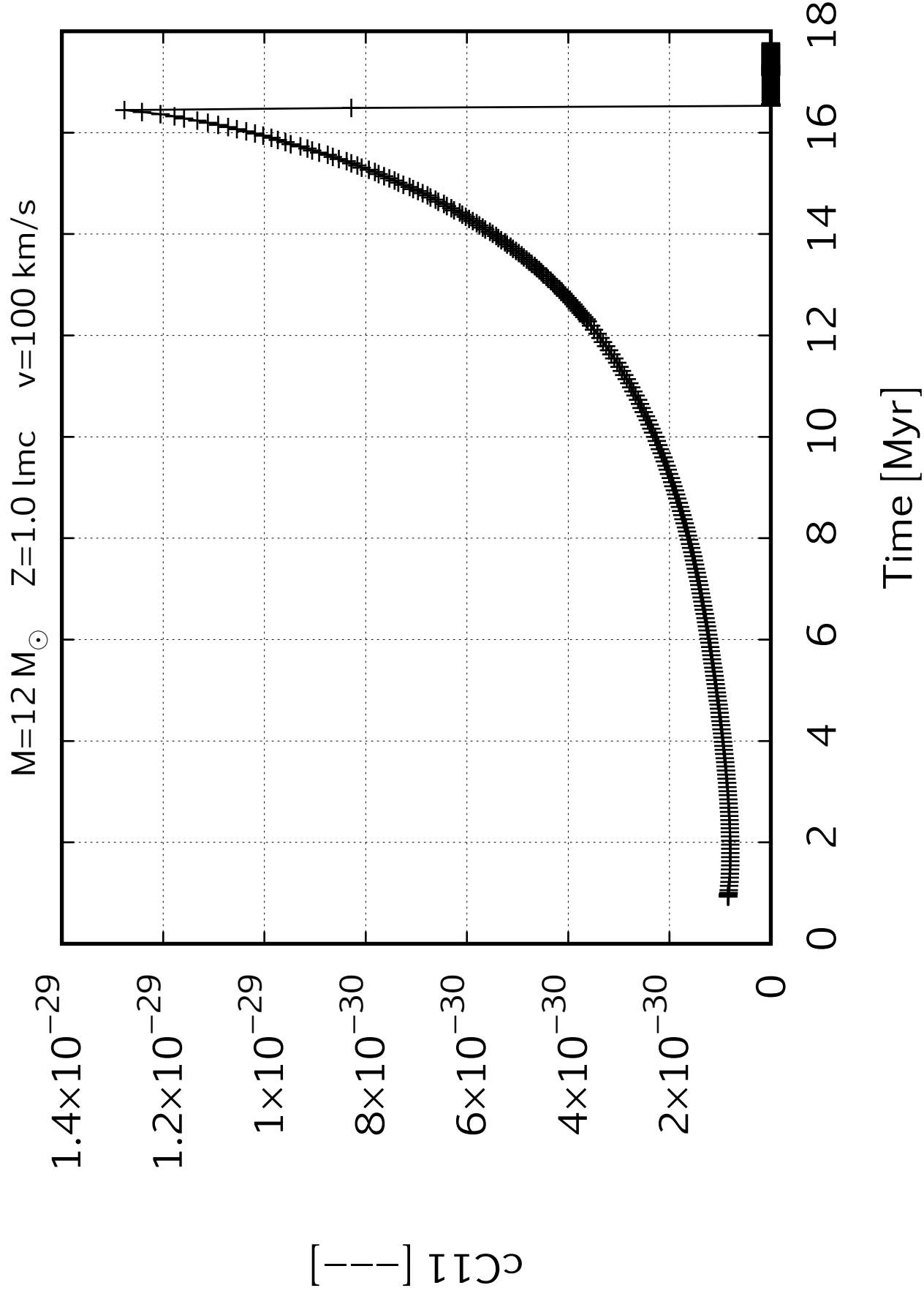


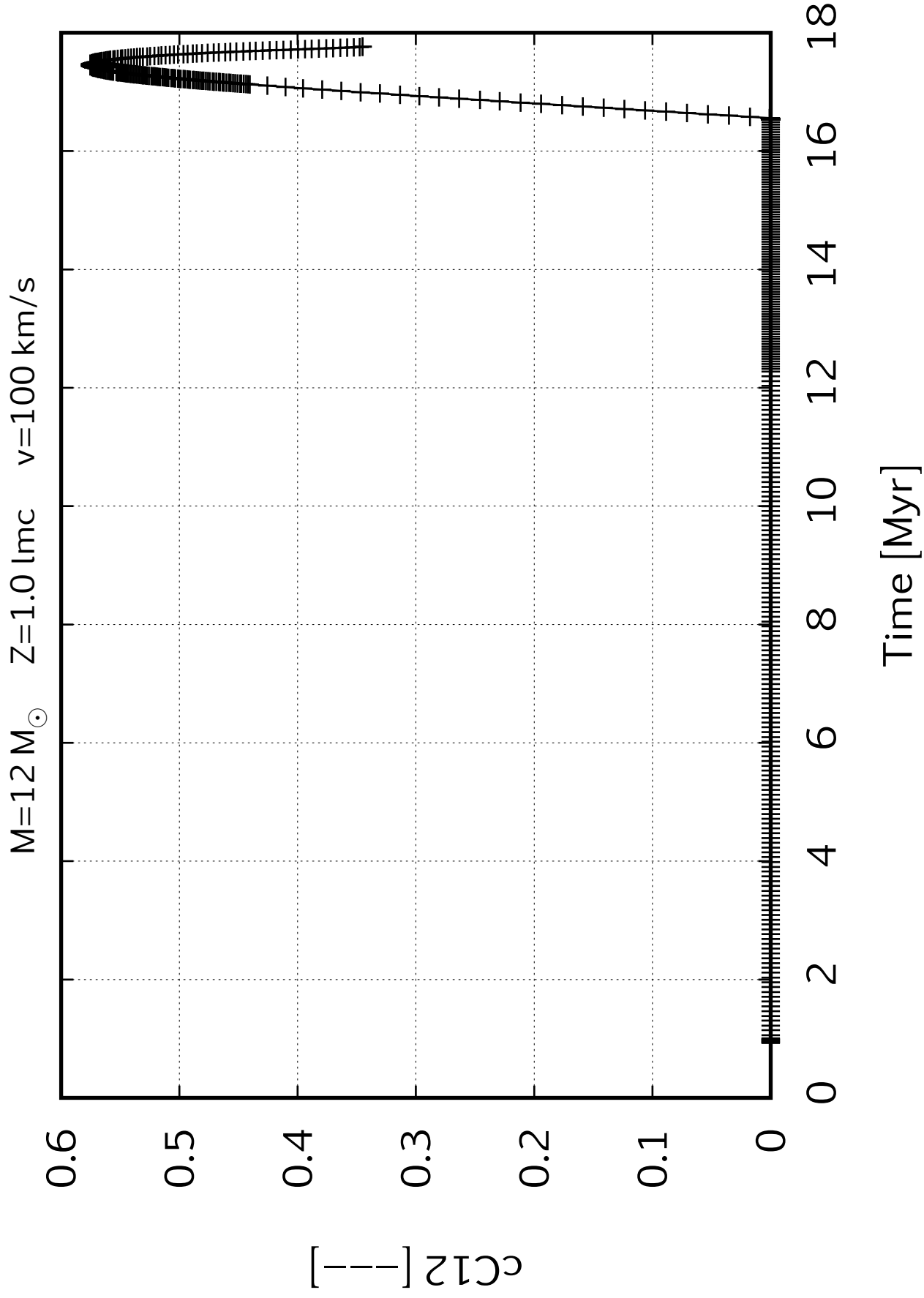
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



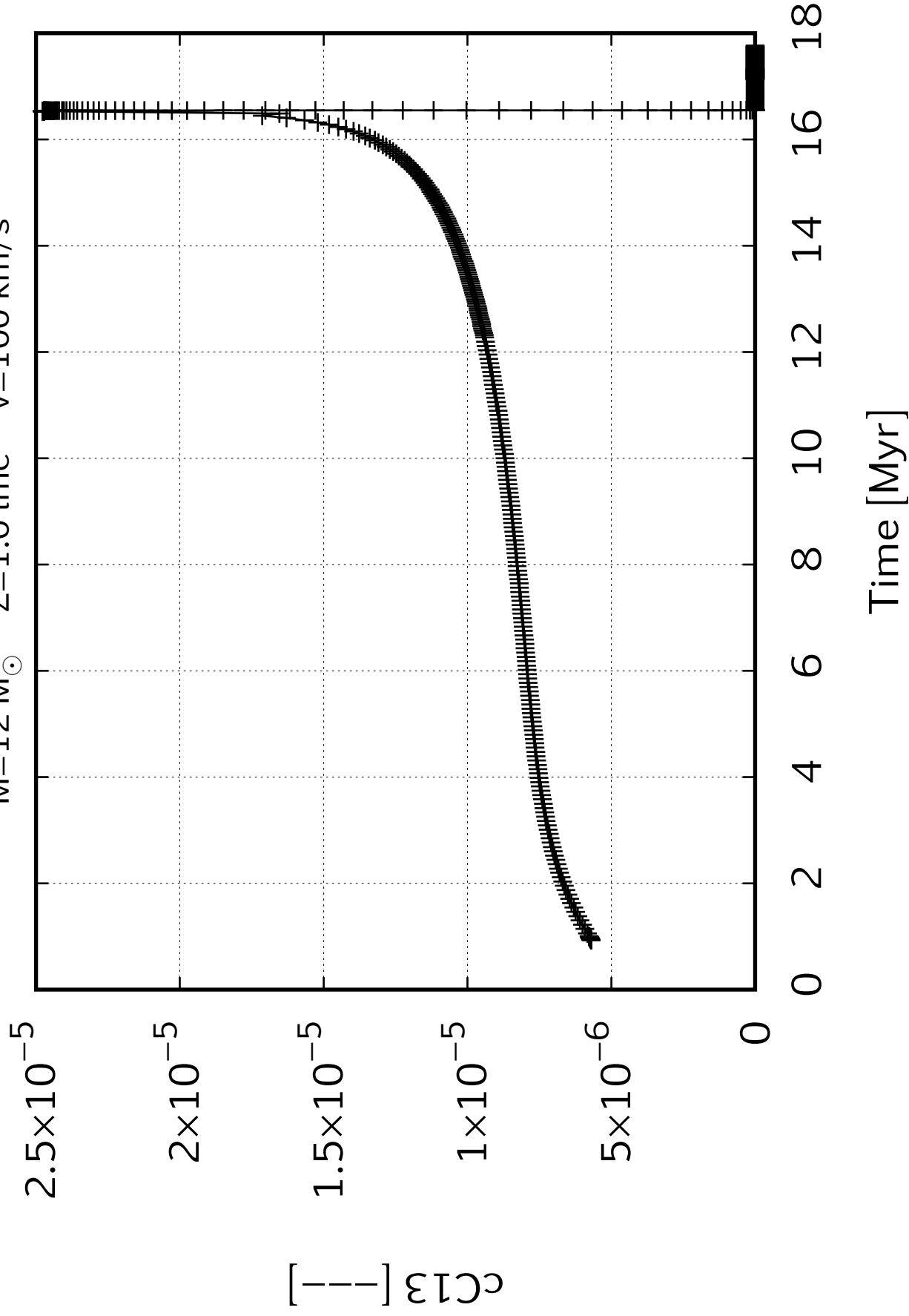


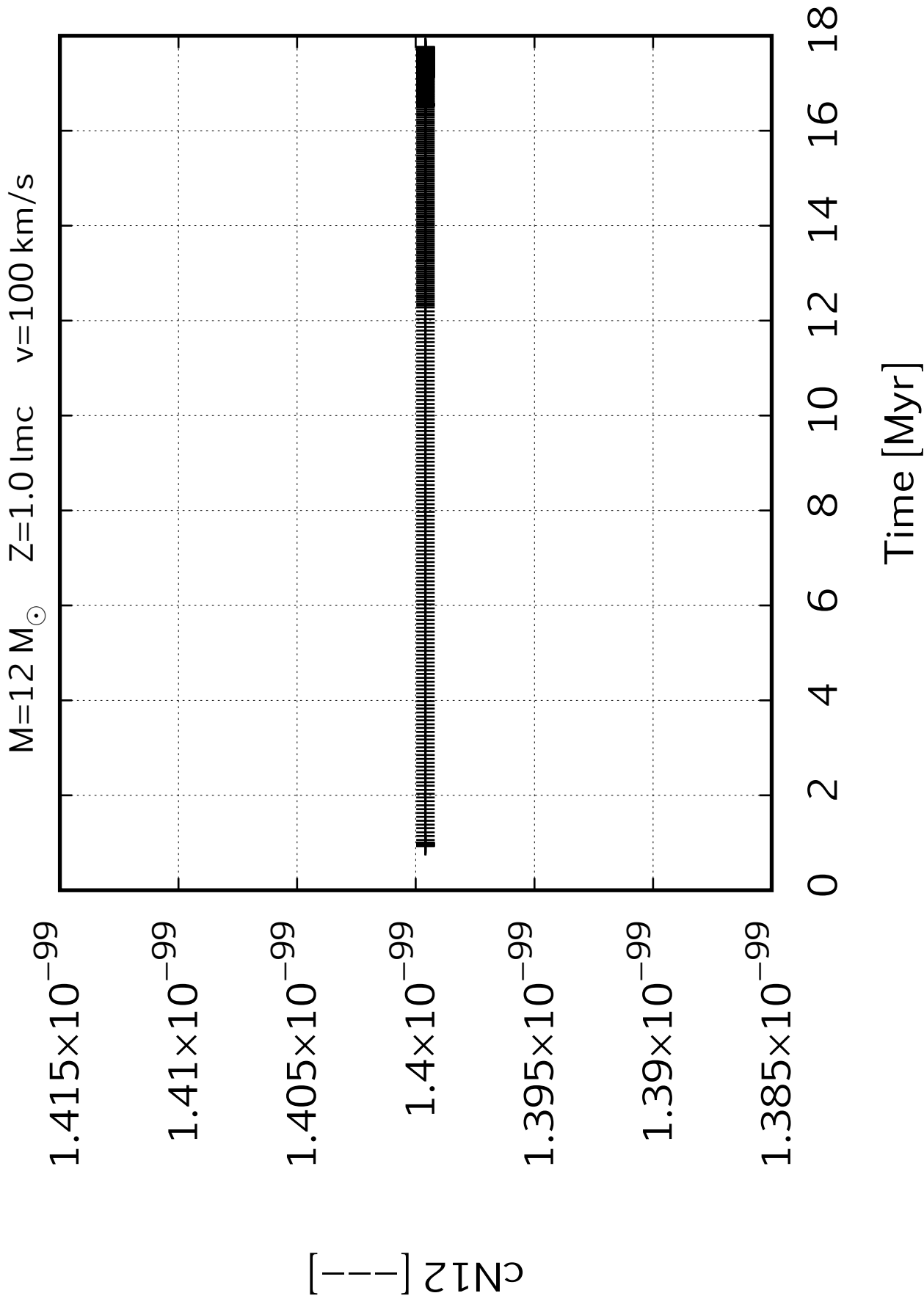




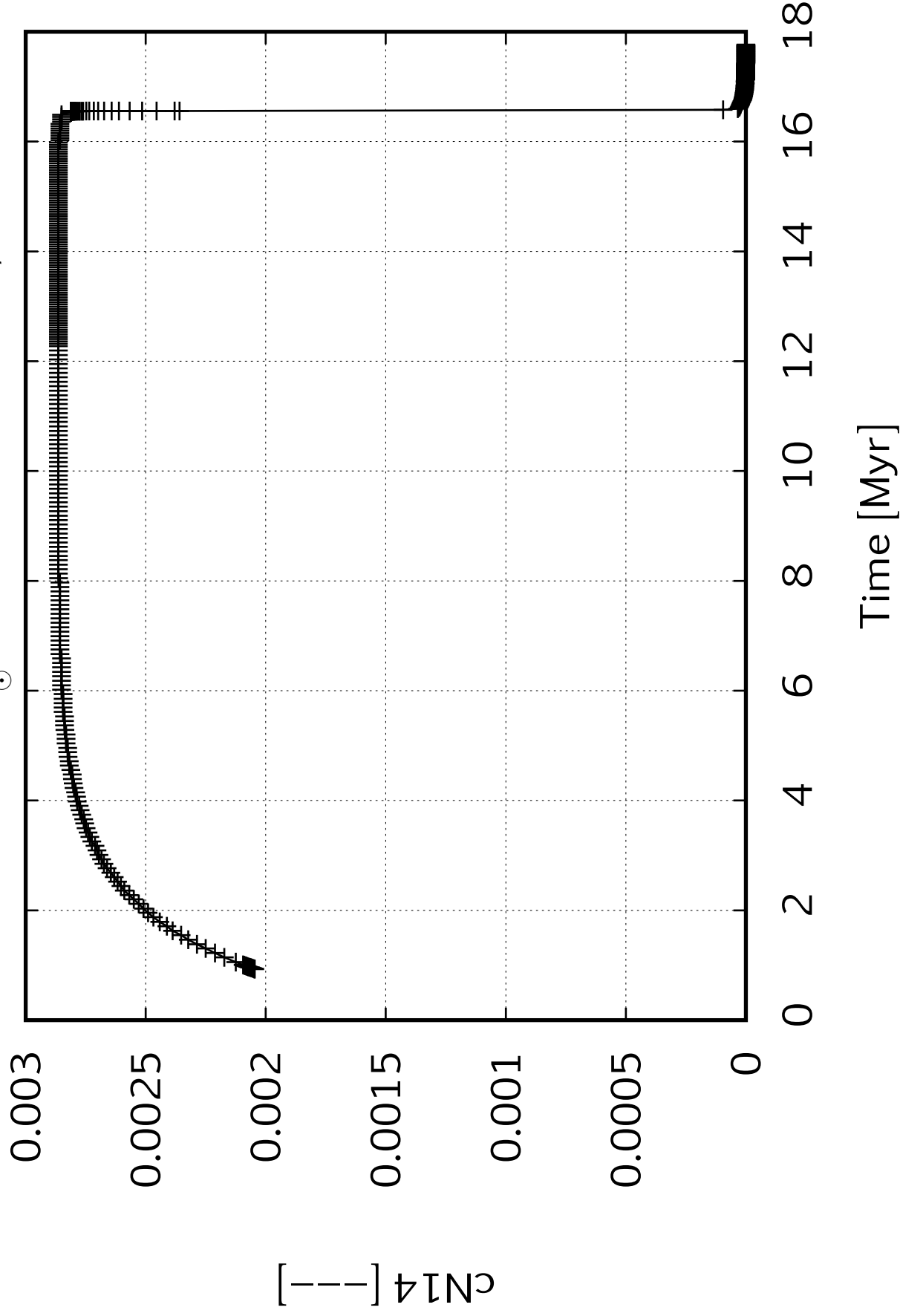


$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

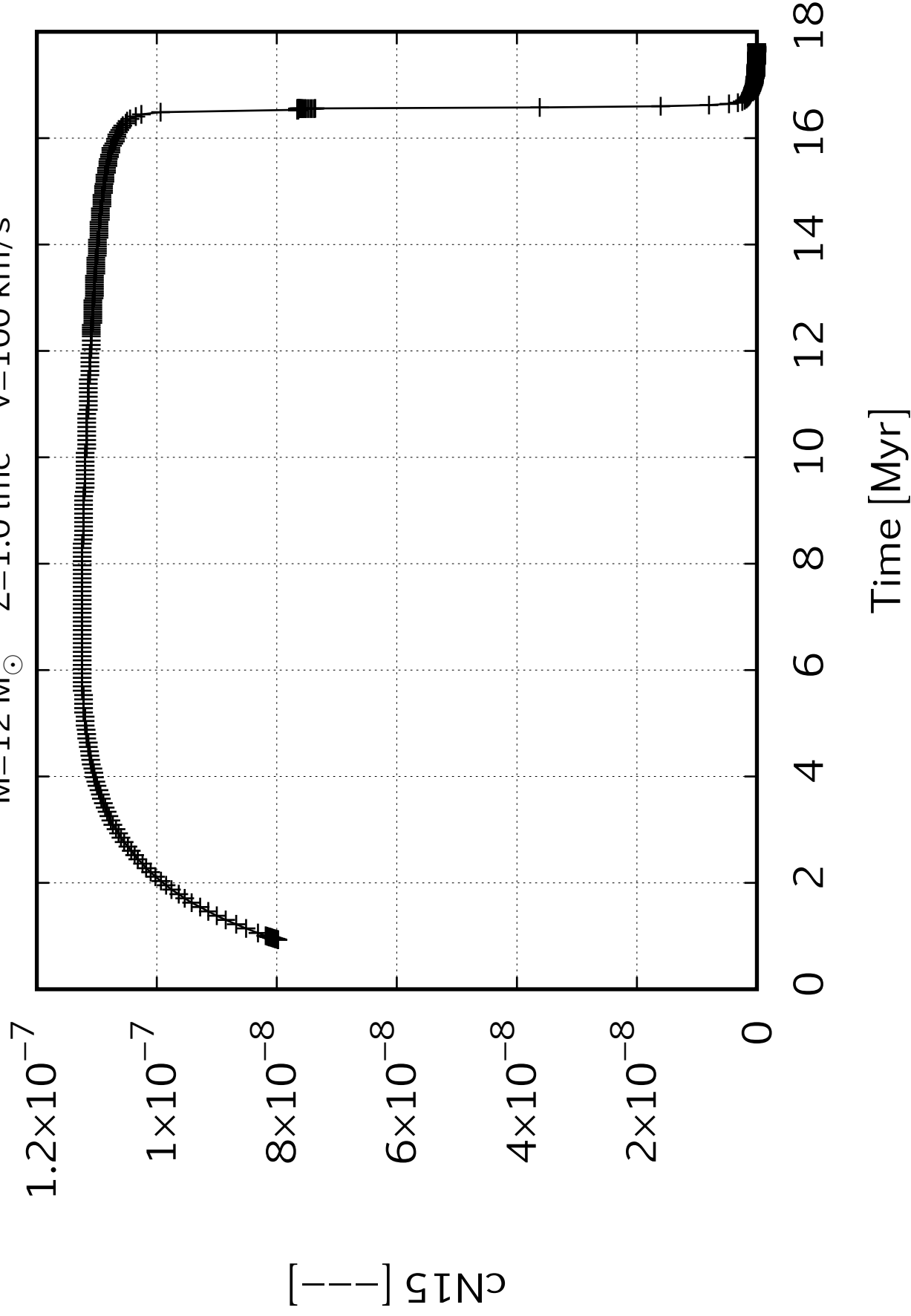


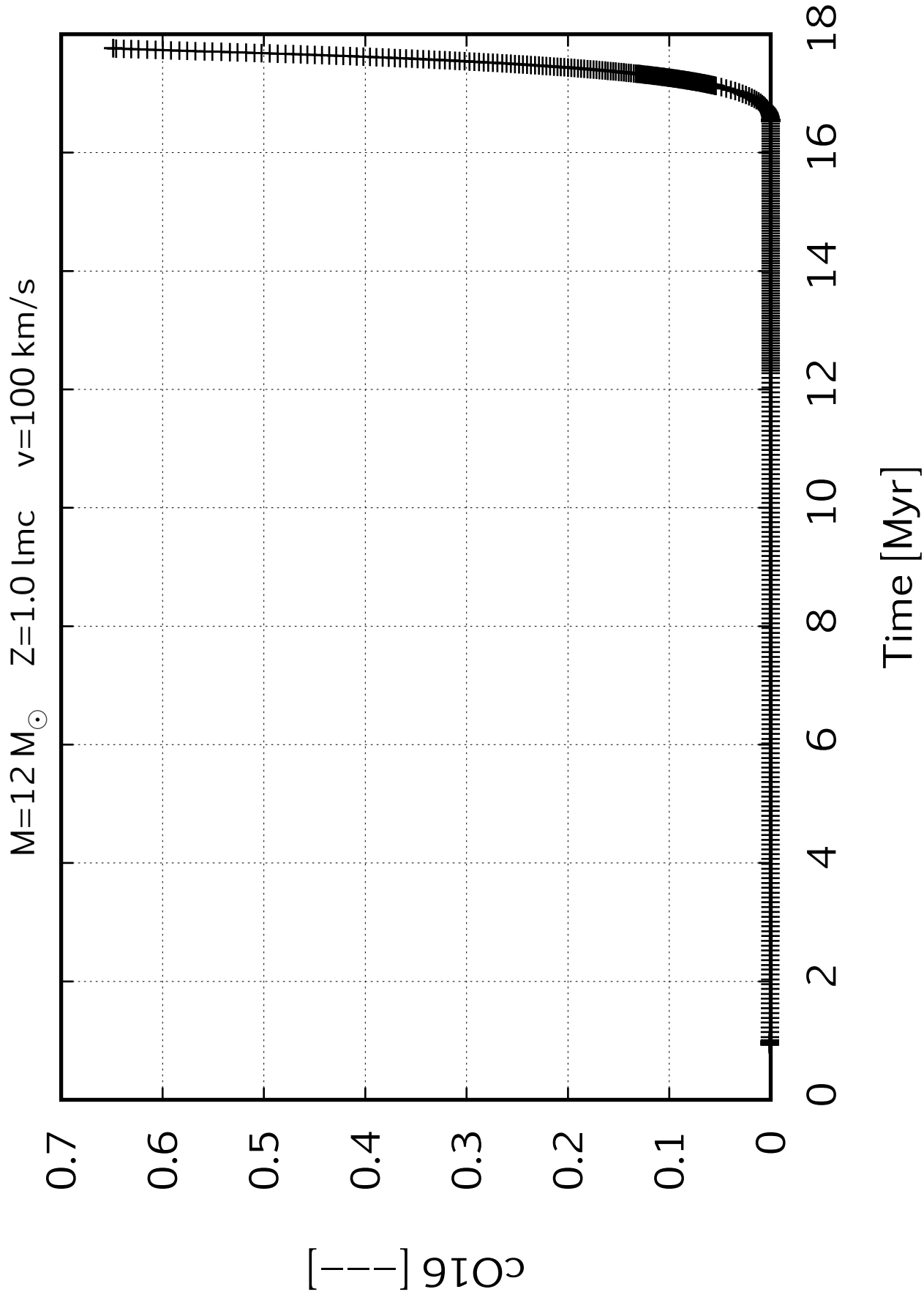


$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

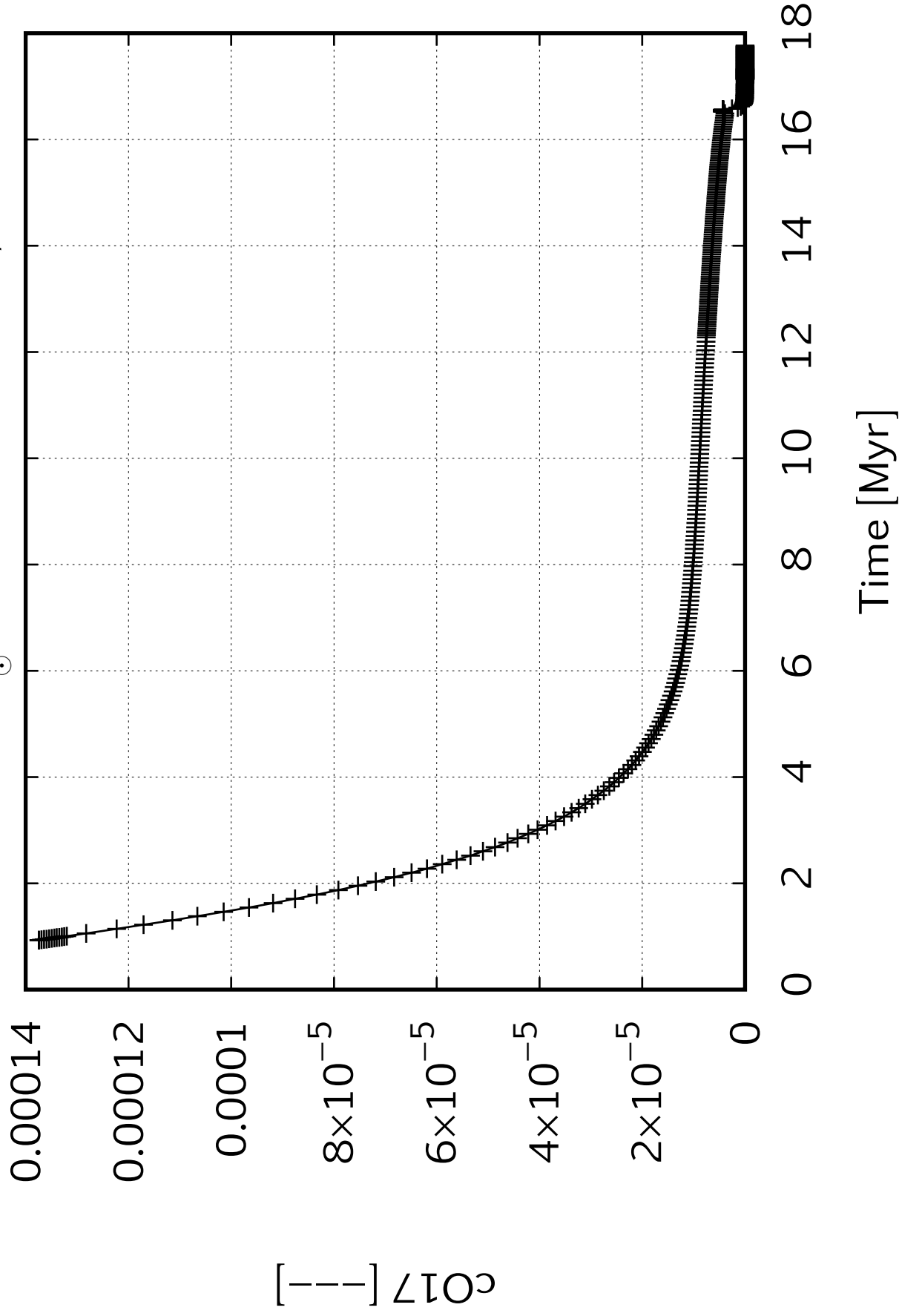


$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



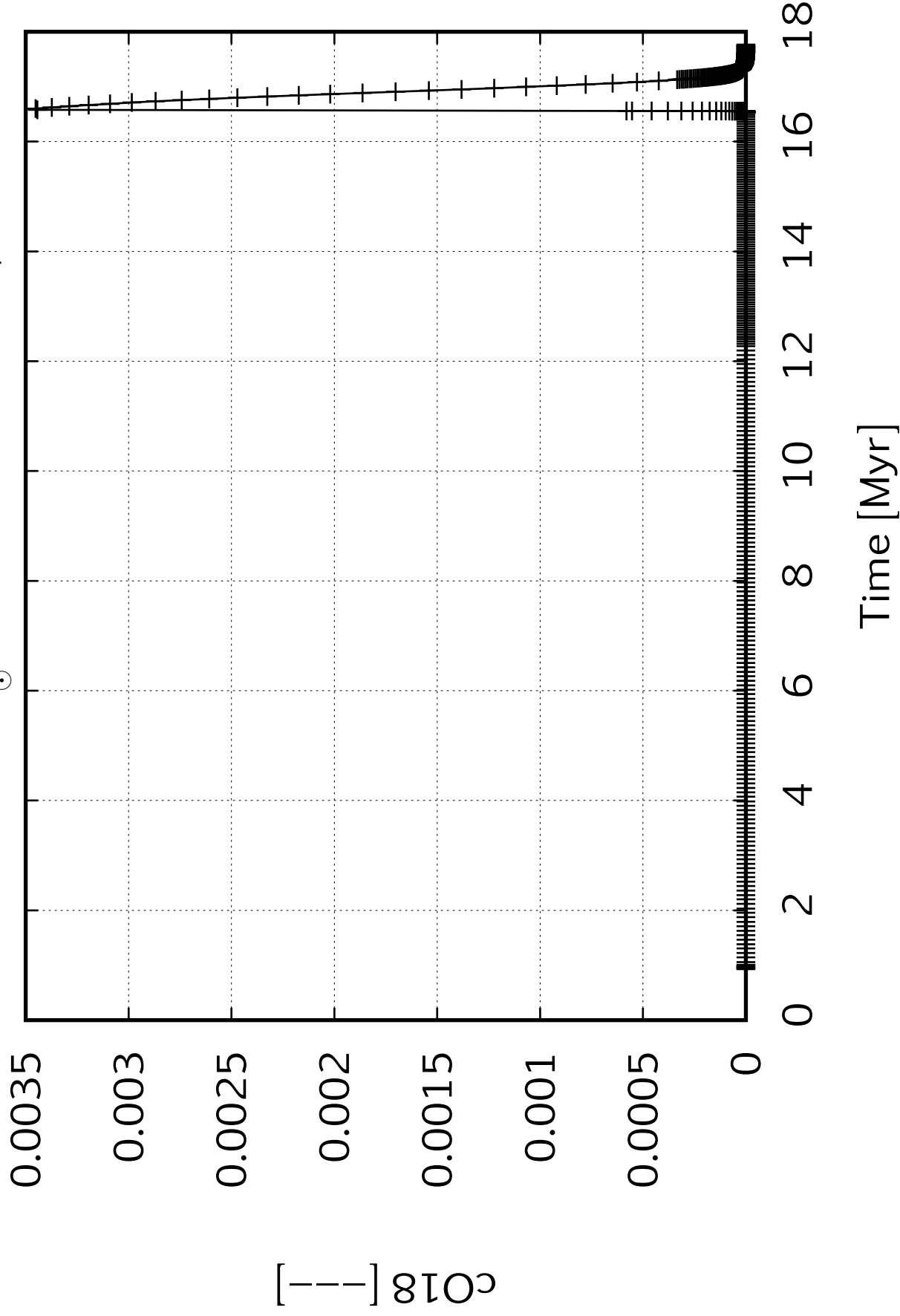


$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

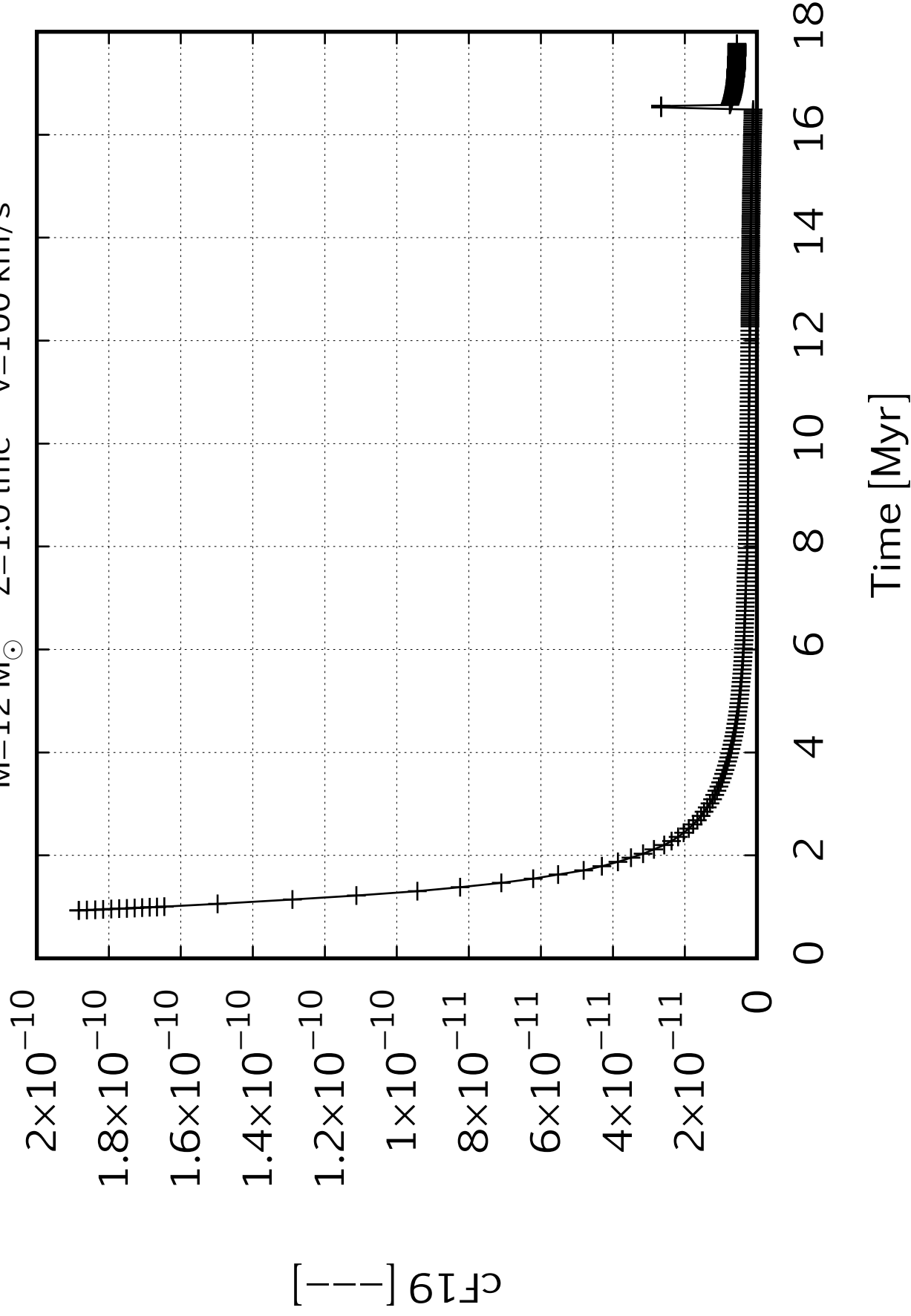




$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.0007

0.00065

0.0006

0.00055

0.0005

0.00045

0.0004

0.00035

$c_{\text{Ne20}} [ - ]$

0

2

4

6

8

10

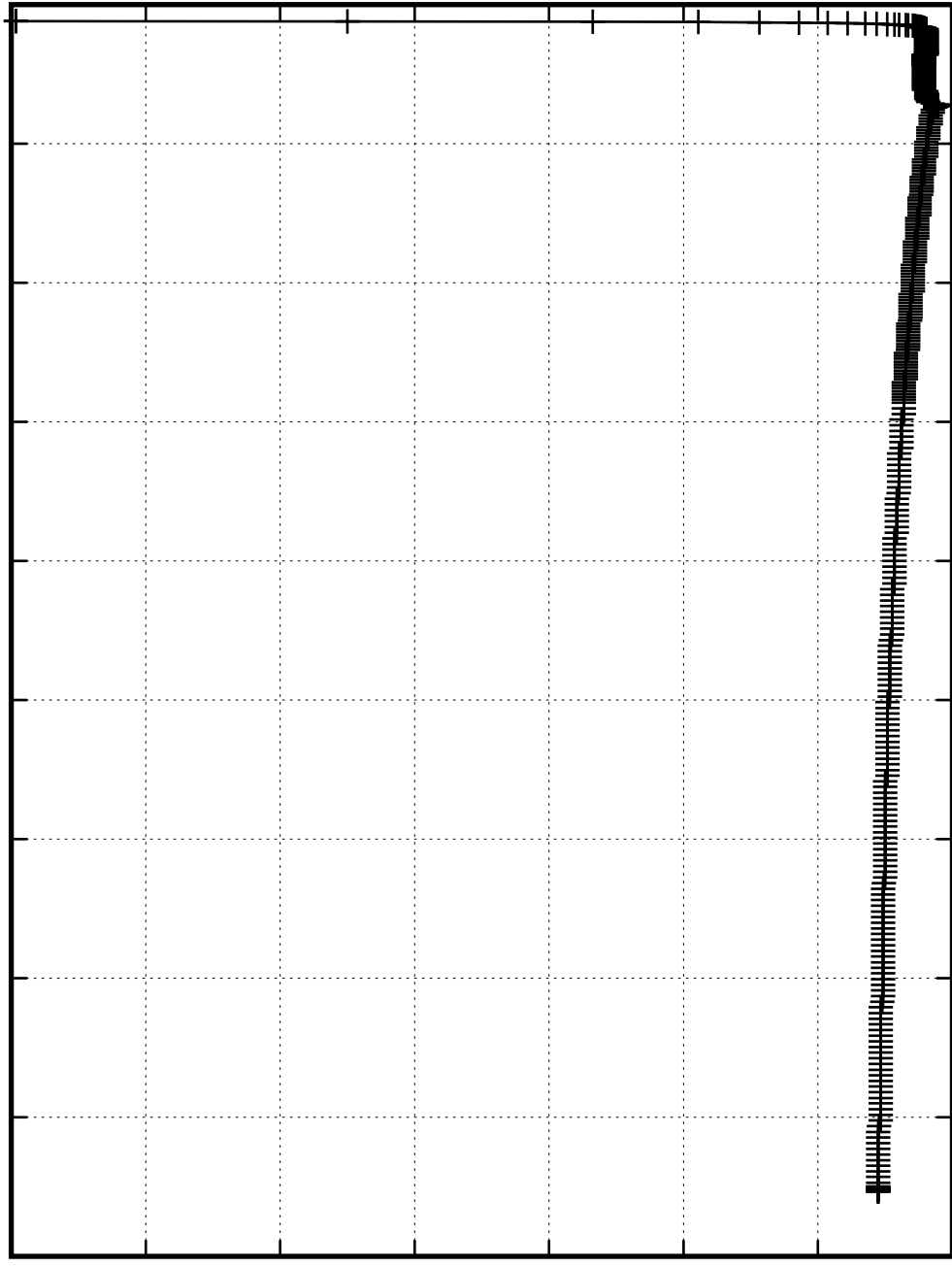
12

14

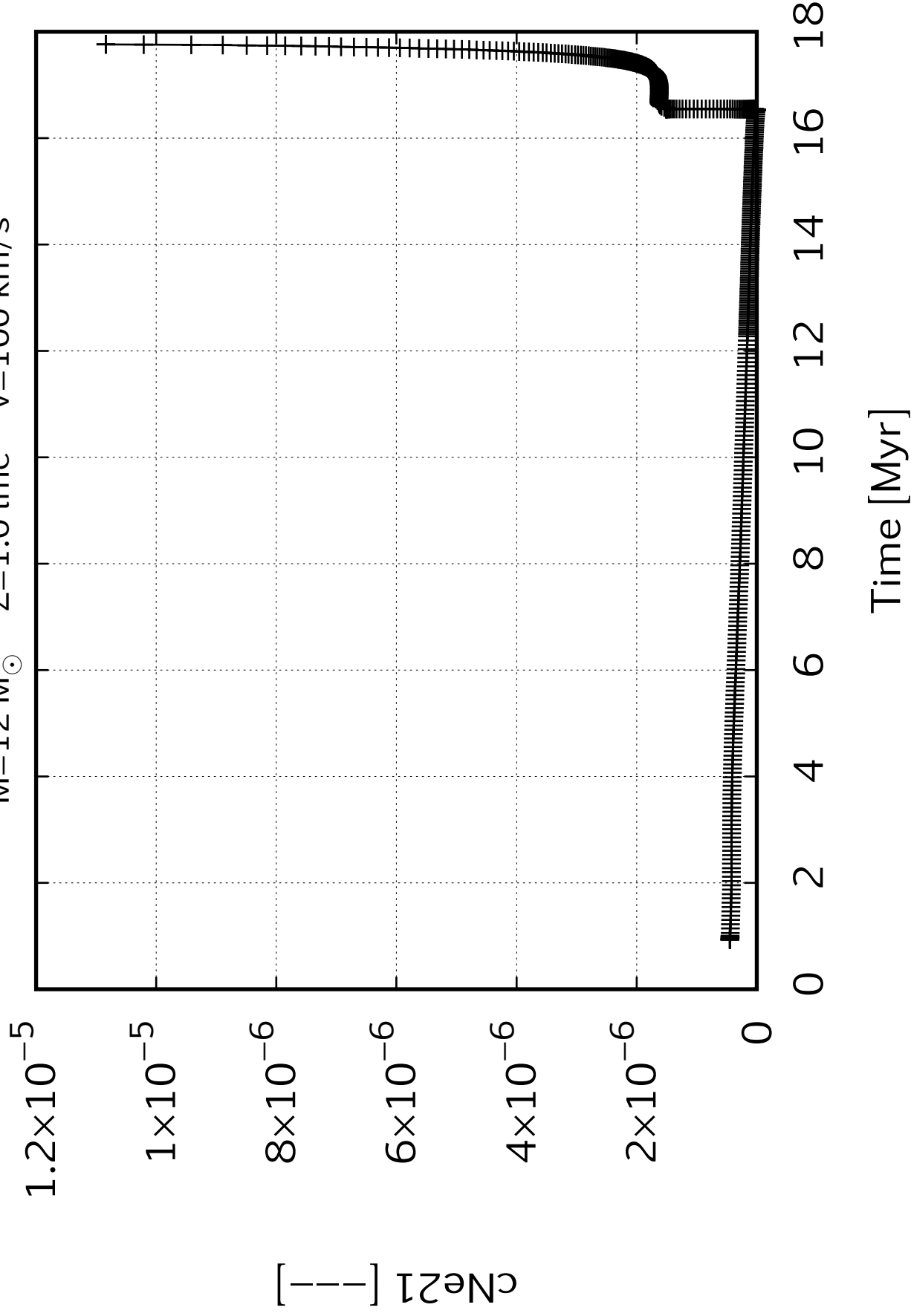
16

18

Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.0045

0.004

0.0035

0.003

0.0025

0.002

0.0015

0.001

0.0005

0

$c_{\text{Ne}22} [ - ]$

0

2

4

6

8

10

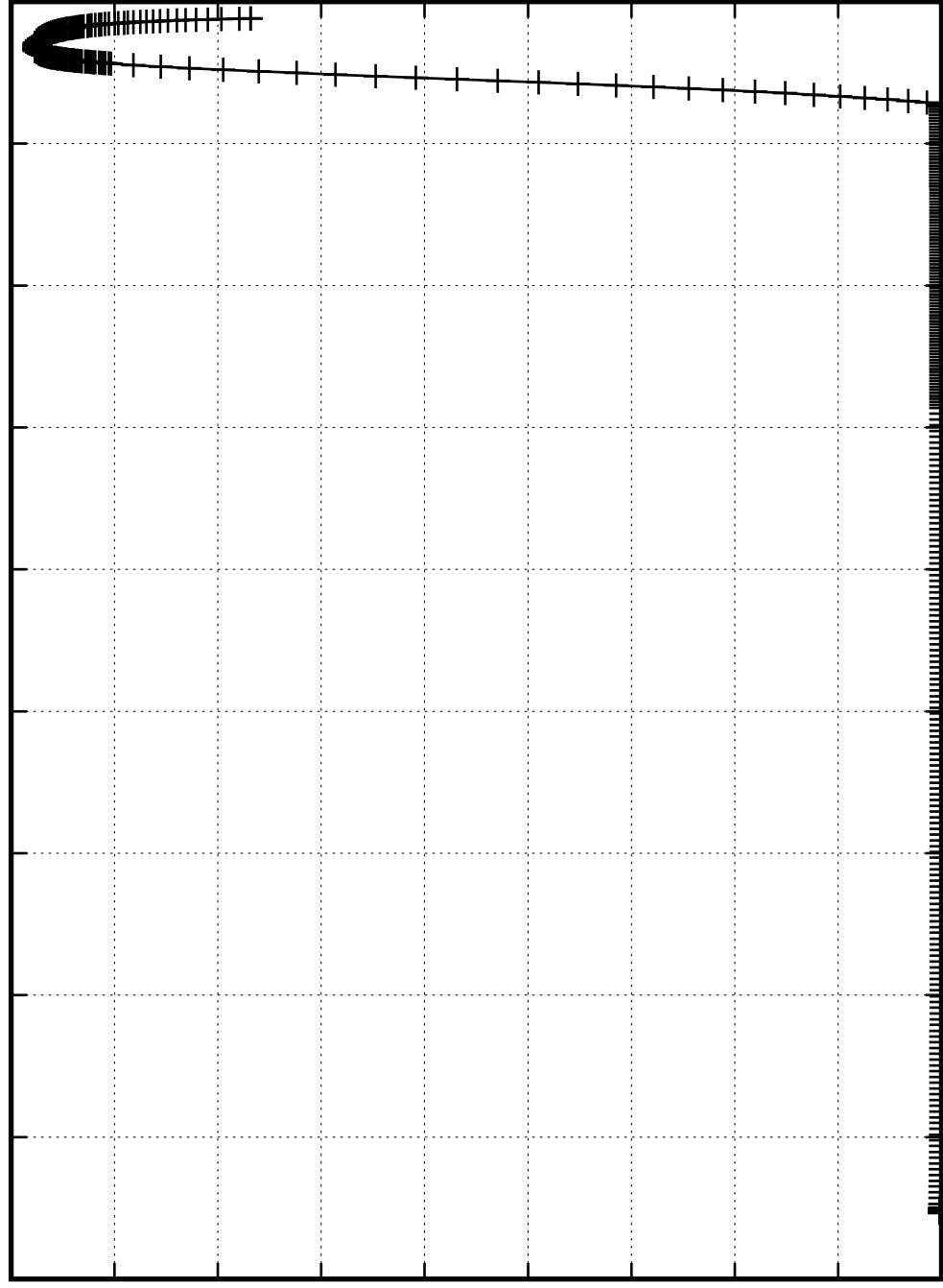
12

14

16

18

Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.00007

0.00006

0.00006

0.00005

0.00005

0.00004

0.00004

$c_{\text{Na23}} [--]$

0

2

4

6

8

10

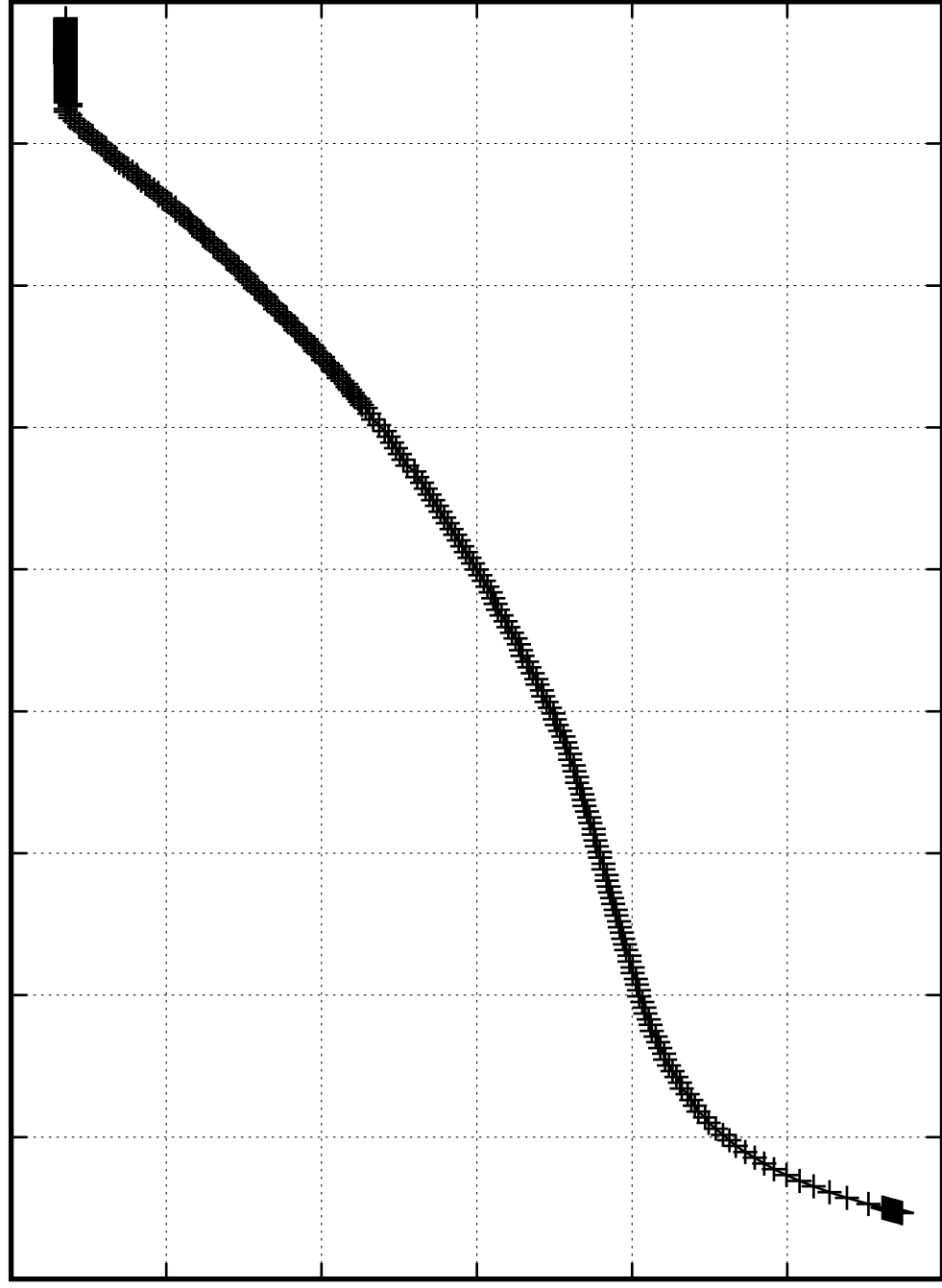
12

14

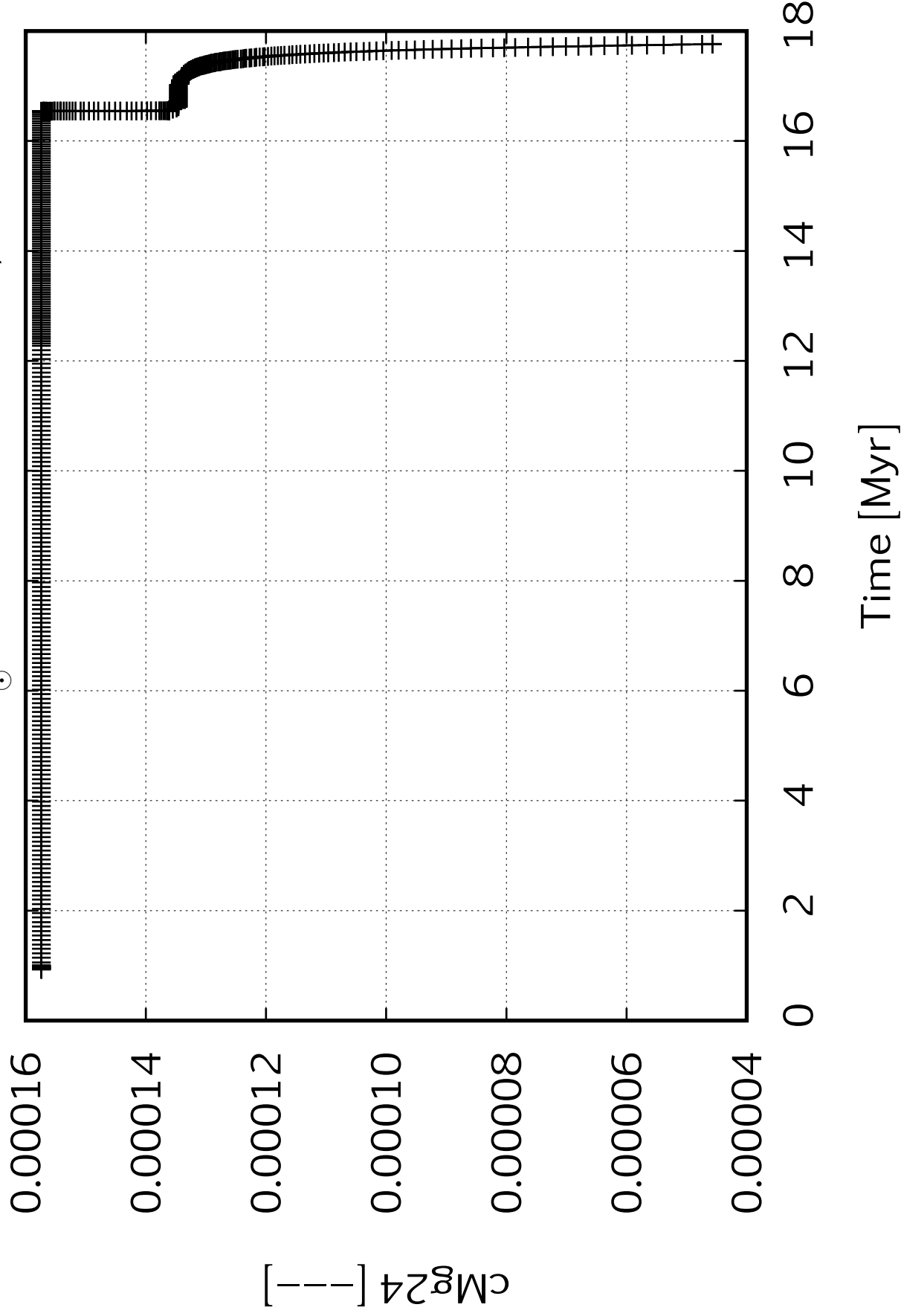
16

18

Time [Myr]

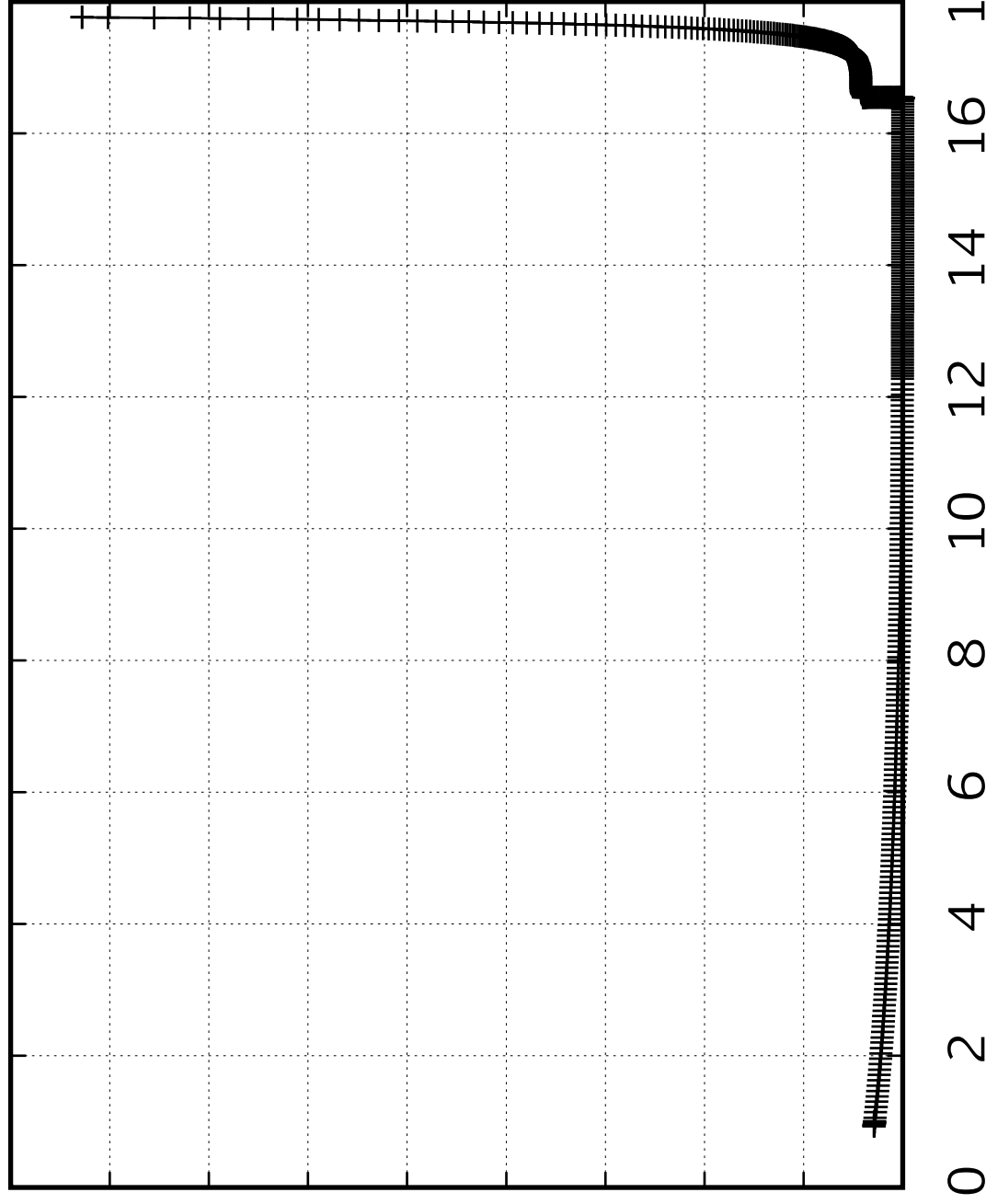


$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

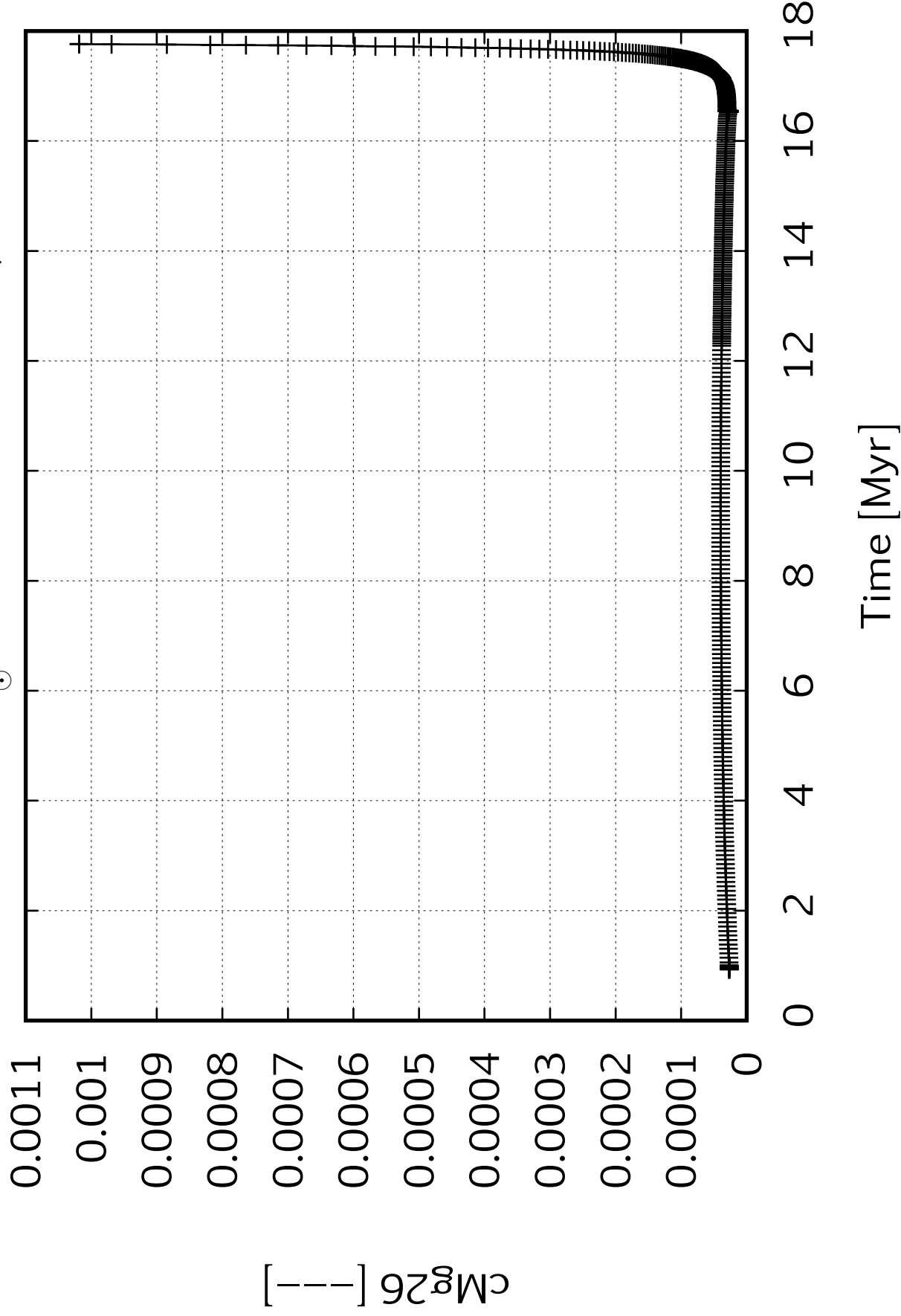
$cM_{25}$   
[—]  
0.00045  
0.0004  
0.00035  
0.0003  
0.00025  
0.0002  
0.00015  
0.0001  
 $5\times 10^{-5}$   
0



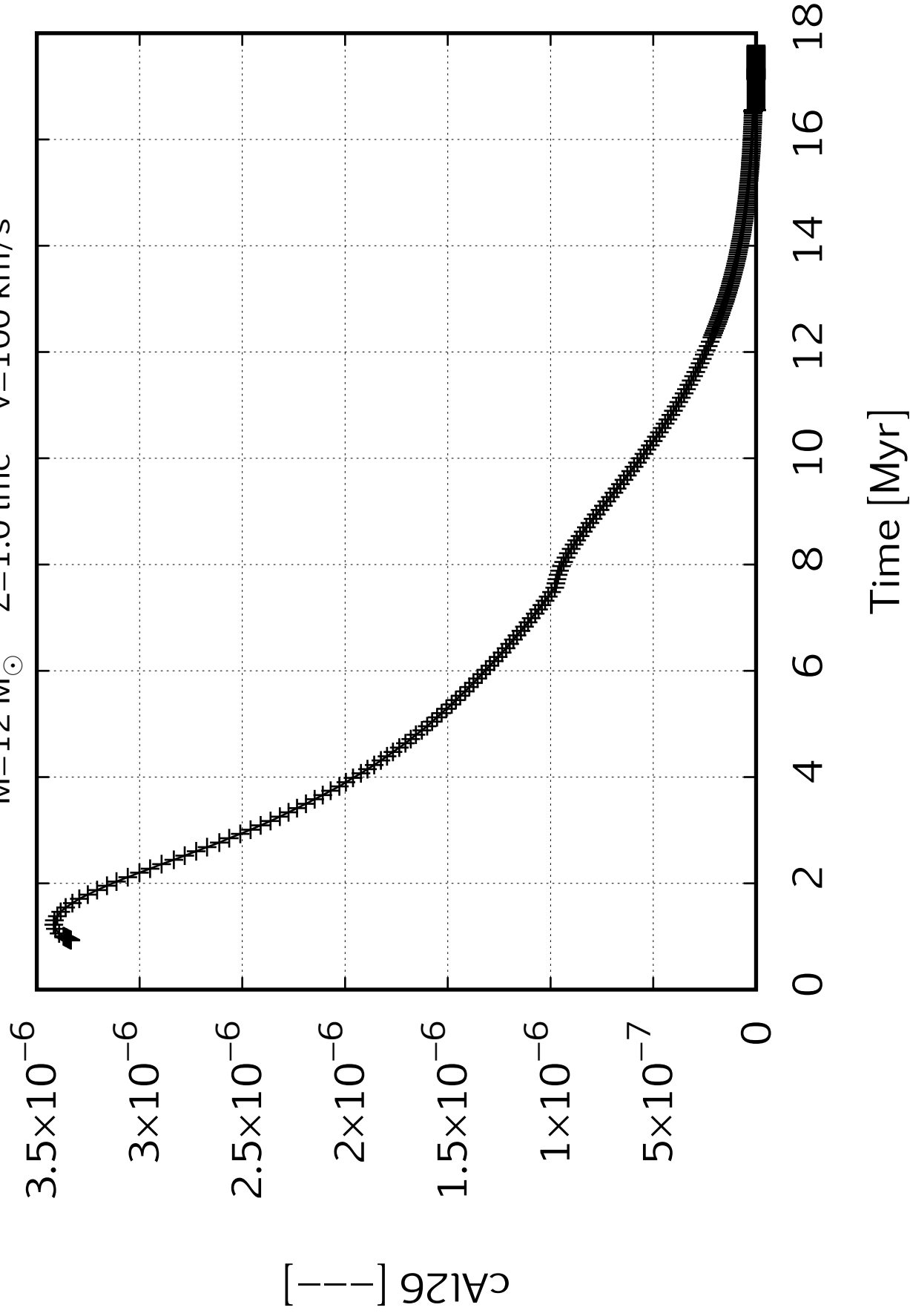
Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s



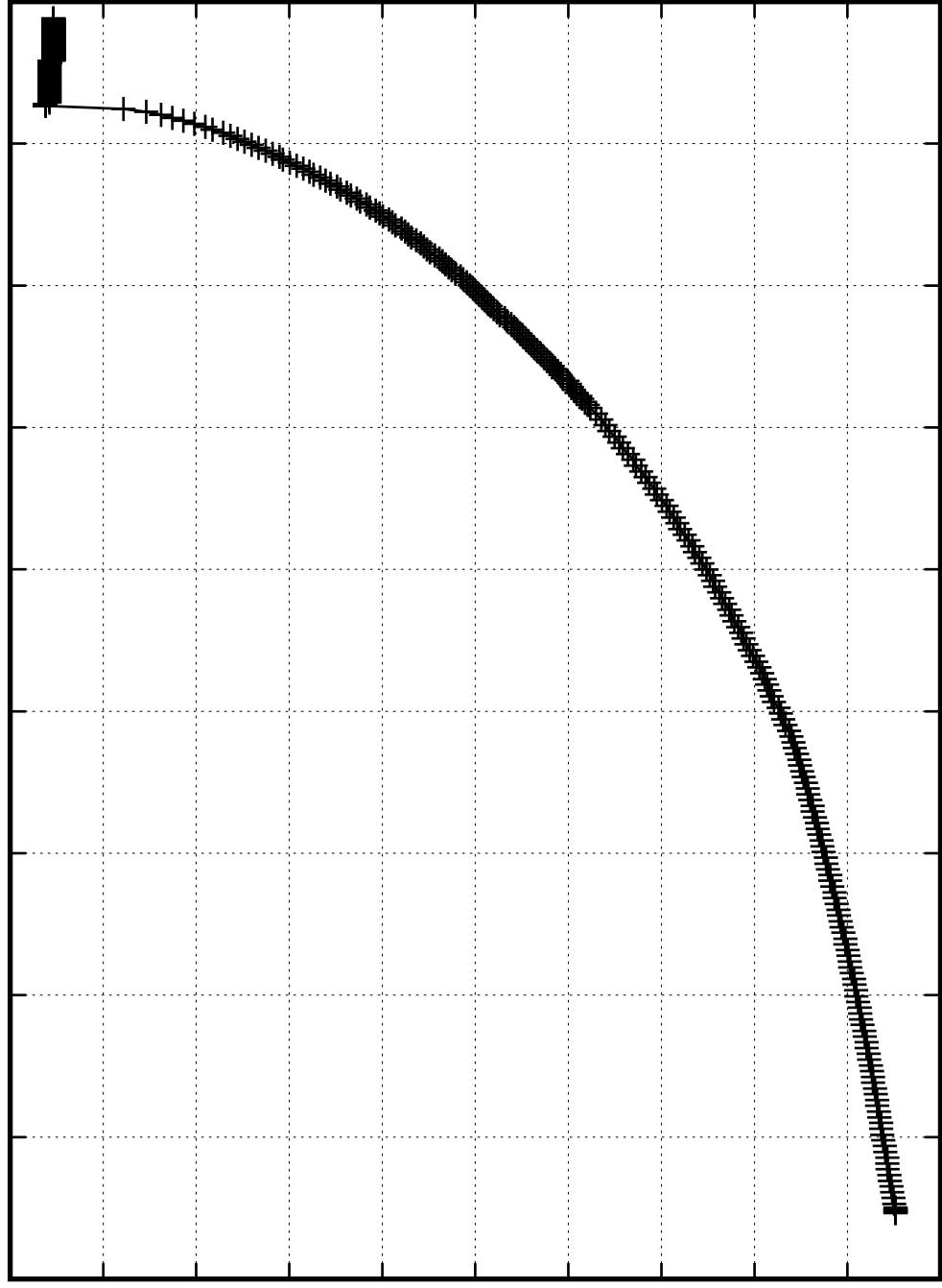
$M=12 M_{\odot}$      $Z=1.0$  lmc     $v=100$  km/s

$c_{\text{Al27}}$  [—]

0.00004  
0.00004  
0.00003  
0.00003  
0.00003  
0.00003  
0.00003  
0.00002  
0.00002  
0.00002  
0.00002

0 2 4 6 8 10 12 14 16 18

Time [Myr]



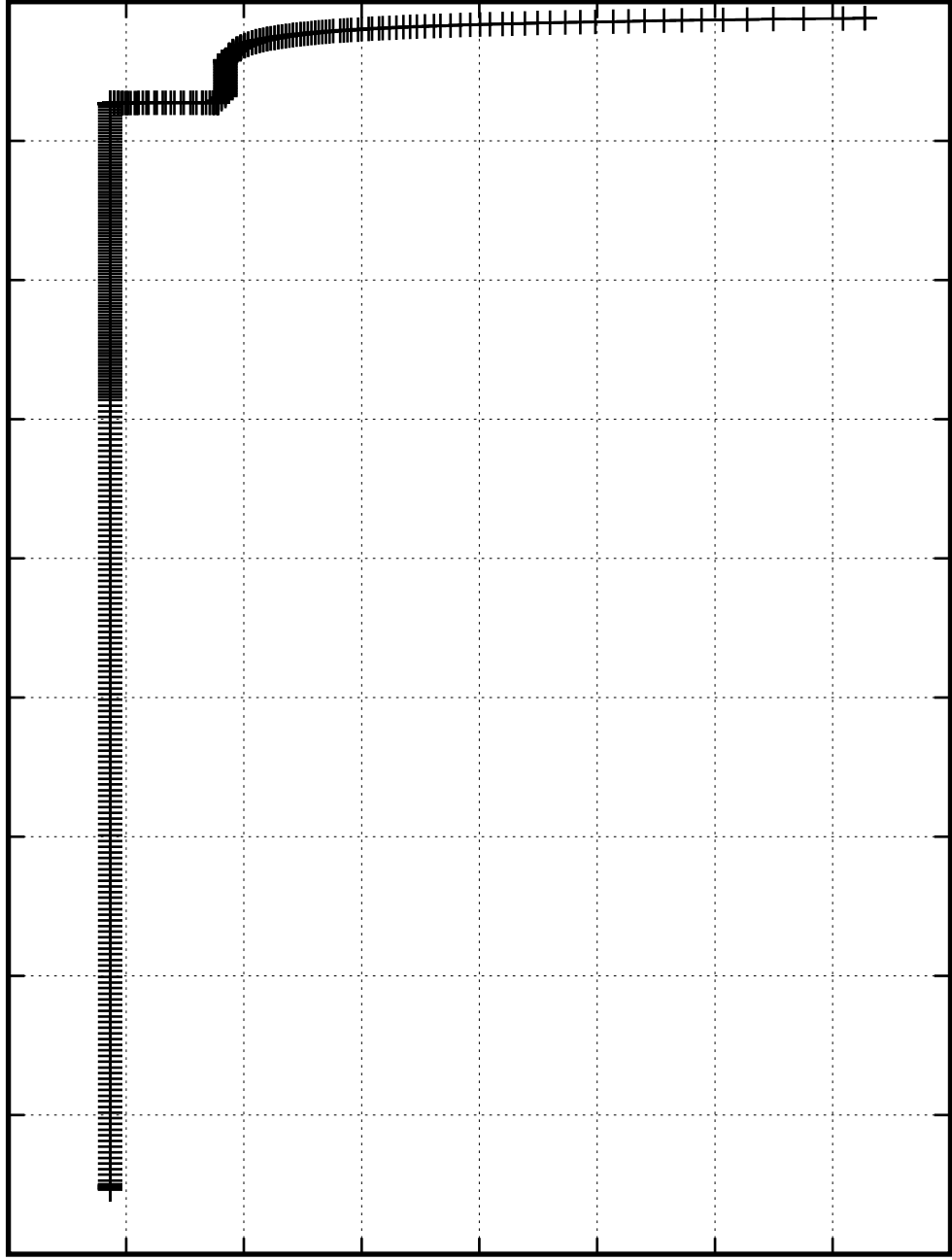
$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

$[\text{---}]_{\text{CSi28}}$

0.00032  
0.0003  
0.00028  
0.00026  
0.00024  
0.00022  
0.0002  
0.00018  
0.00016

0 2 4 6 8 10 12 14 16 18

Time [Myr]



$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.00005

0.00005

0.00004

0.00004

0.00003

0.00003

0.00002

0.00002

$[ \text{--} ]_{\text{CS:29}}$

0

2

4

6

8

10

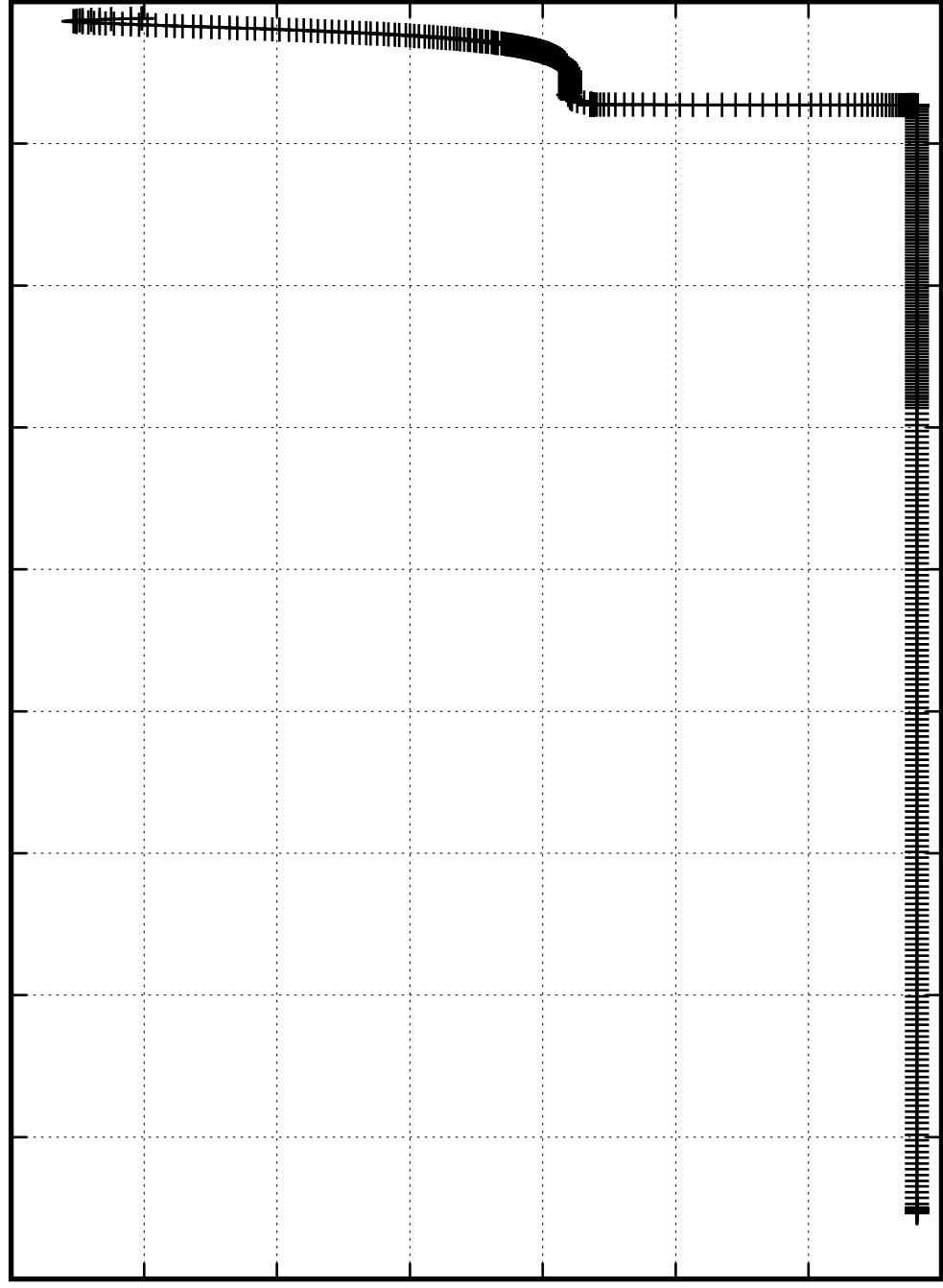
12

14

16

18

Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

0.00012

0.0001

$8\times 10^{-5}$

$6\times 10^{-5}$

$4\times 10^{-5}$

$2\times 10^{-5}$

0

$[{\rm C\,Si\,30}]$

0

2

4

6

8

10

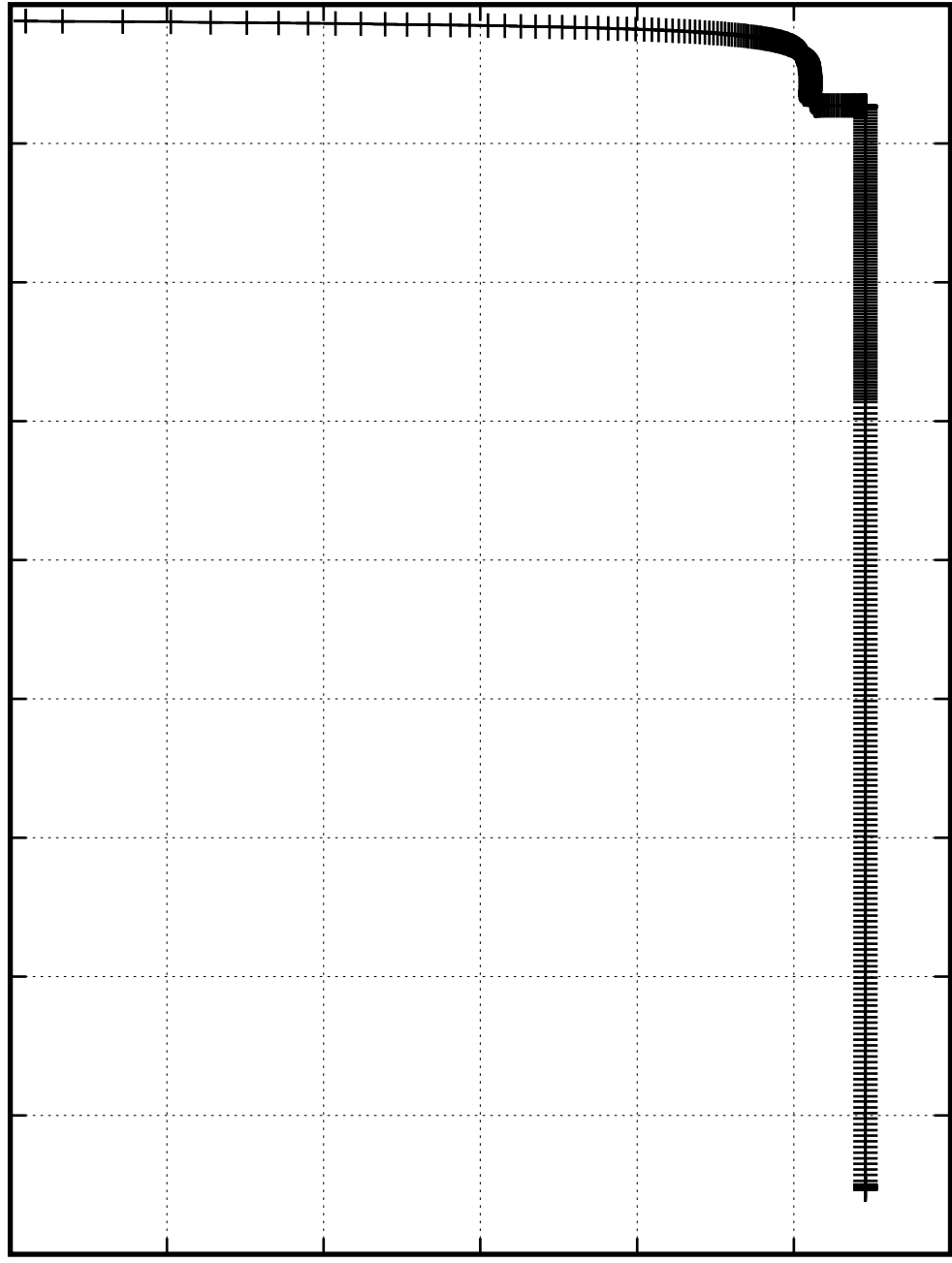
12

14

16

18

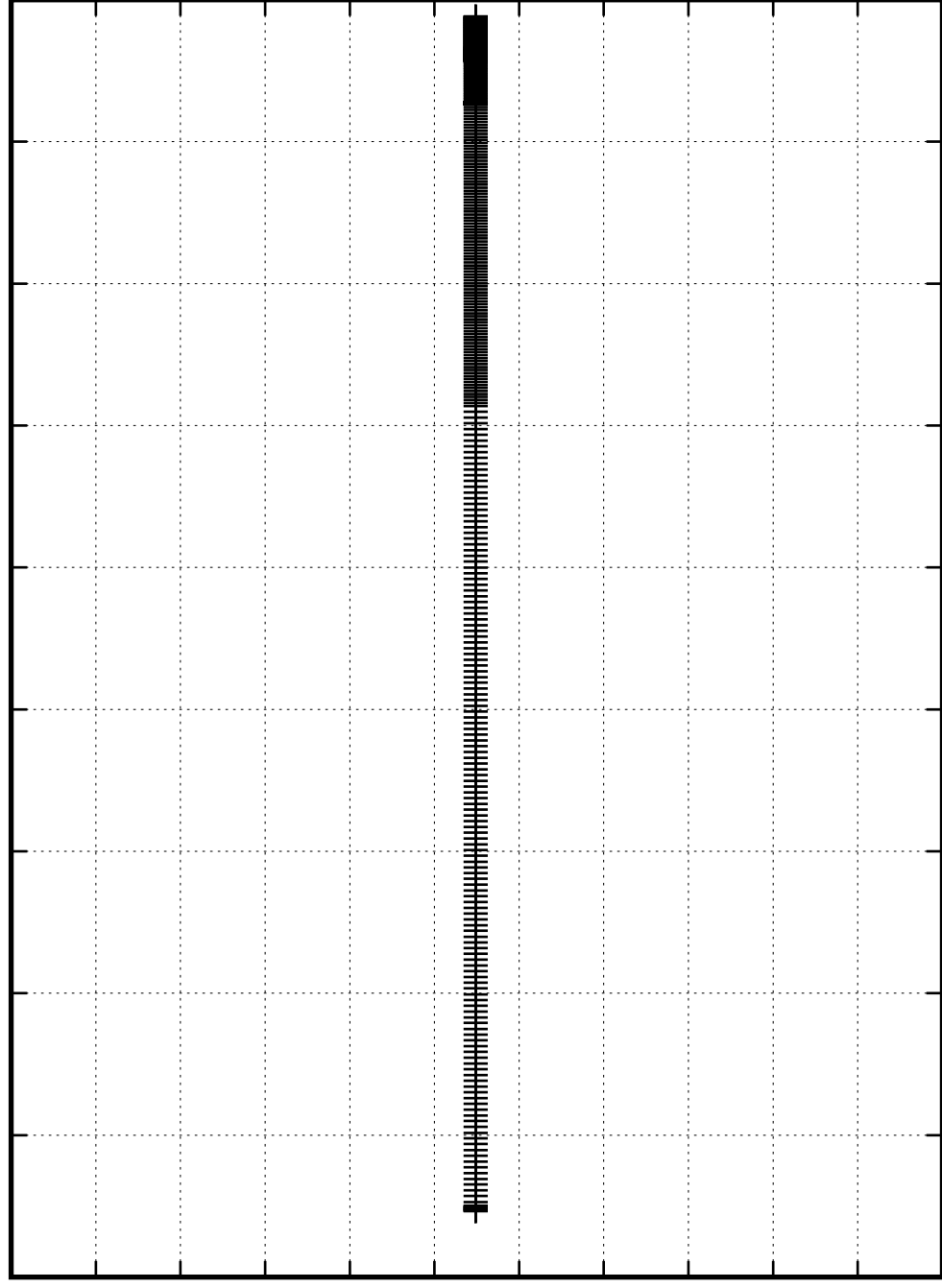
Time [Myr]



$M=12\,M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s

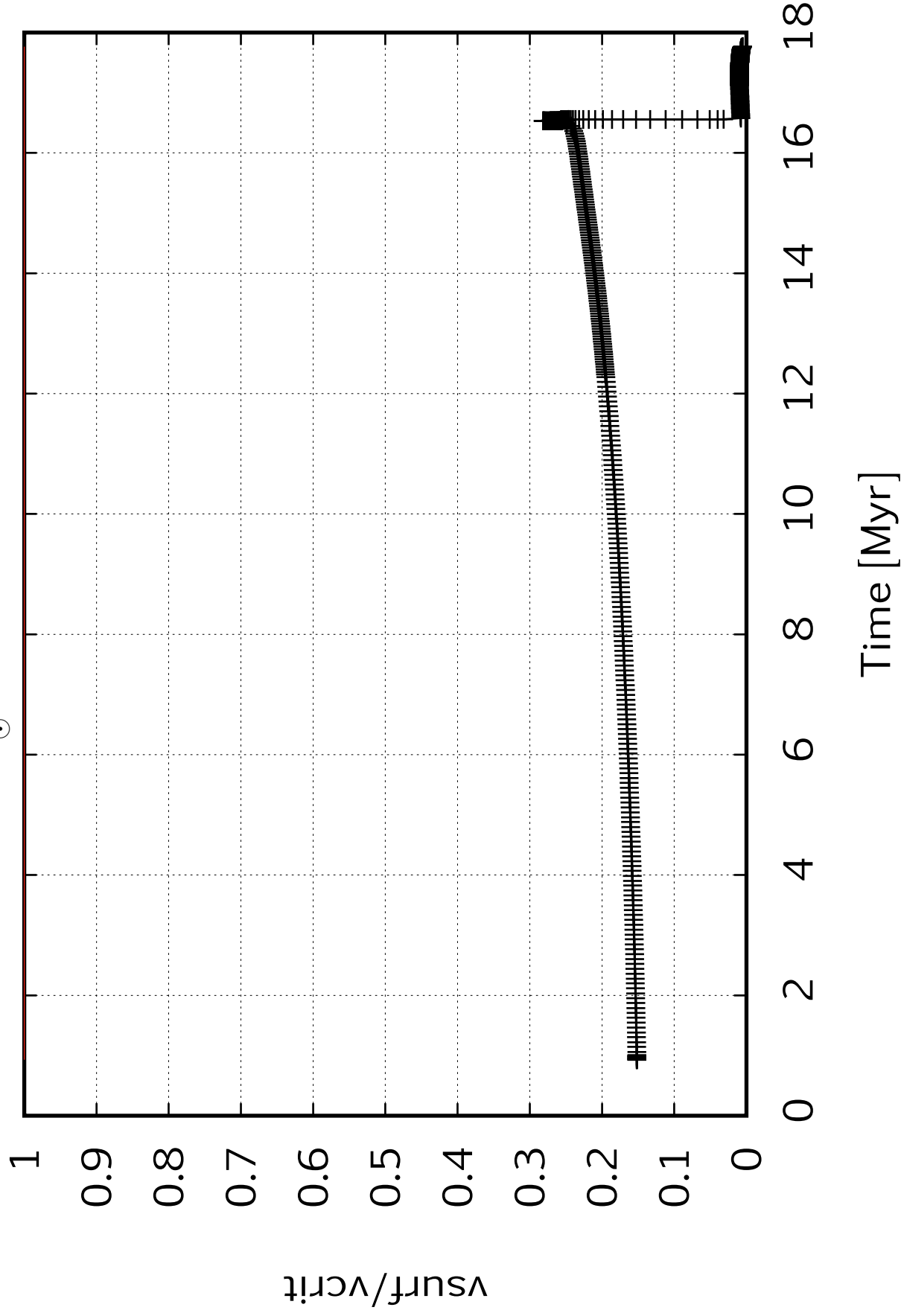
$[\text{Fe}/\text{H}]$

0.00047  
0.00047  
0.00047  
0.00047  
0.00047  
0.00047  
0.00046  
0.00046  
0.00046  
0.00046  
0.00046  
0.00046



Time [Myr]

$M=12 M_{\odot}$     $Z=1.0$  lmc    $v=100$  km/s





12 M<sub>⊙</sub> LMC

4.9

4.8

4.7

4.6

4.5

4.4

4.3

4.2

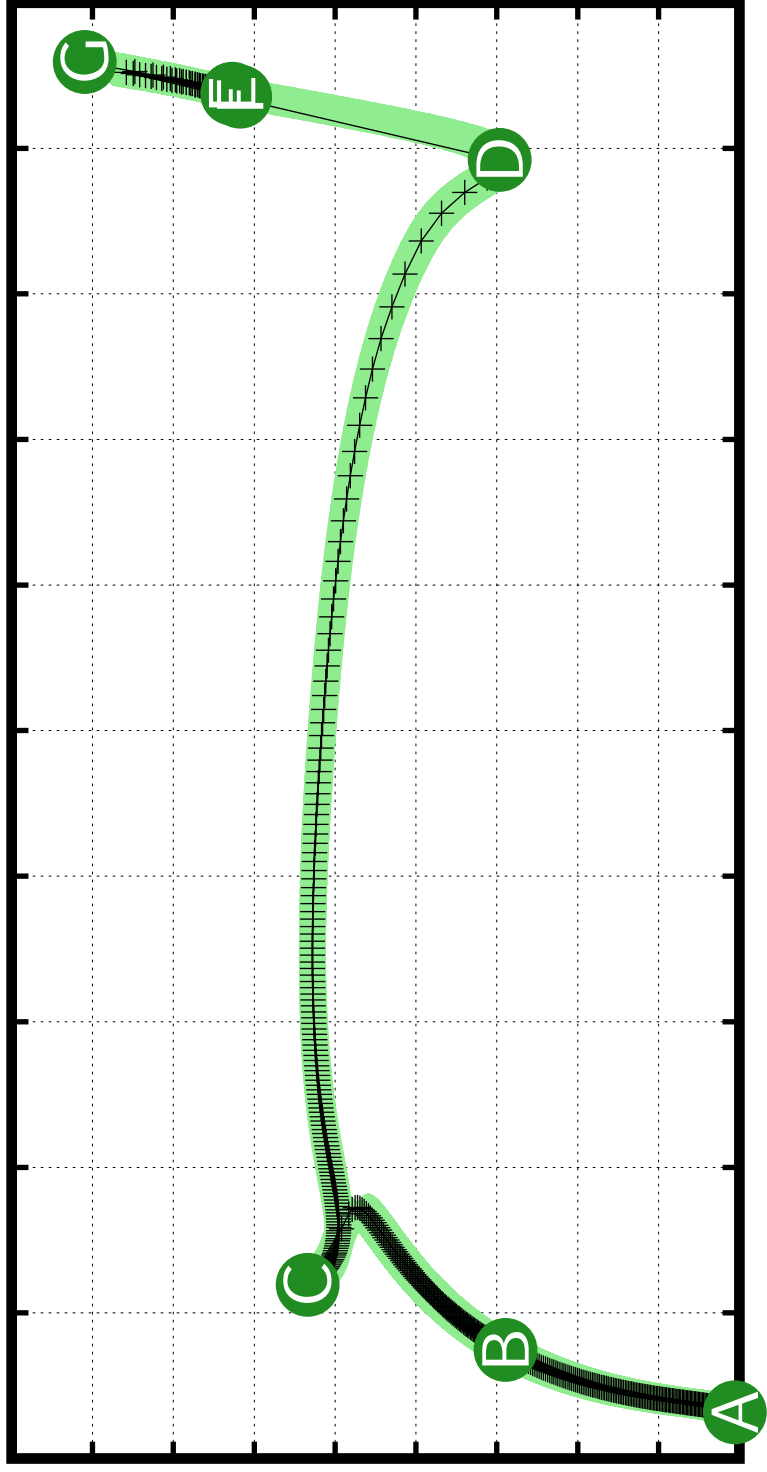
4.1

4

$L/L_{\odot}$

4.5 4.4 4.3 4.2 4.1 4 3.9 3.8 3.7 3.6 3.5

$\log T_{\text{eff}} [\text{K}]$



12 M<sub>⊙</sub> LMC

log dot M [M<sub>⊙</sub>/yr]

-5.5

-6

-6.5

-7

-7.5

-8

-8.5

-9

12

13

14

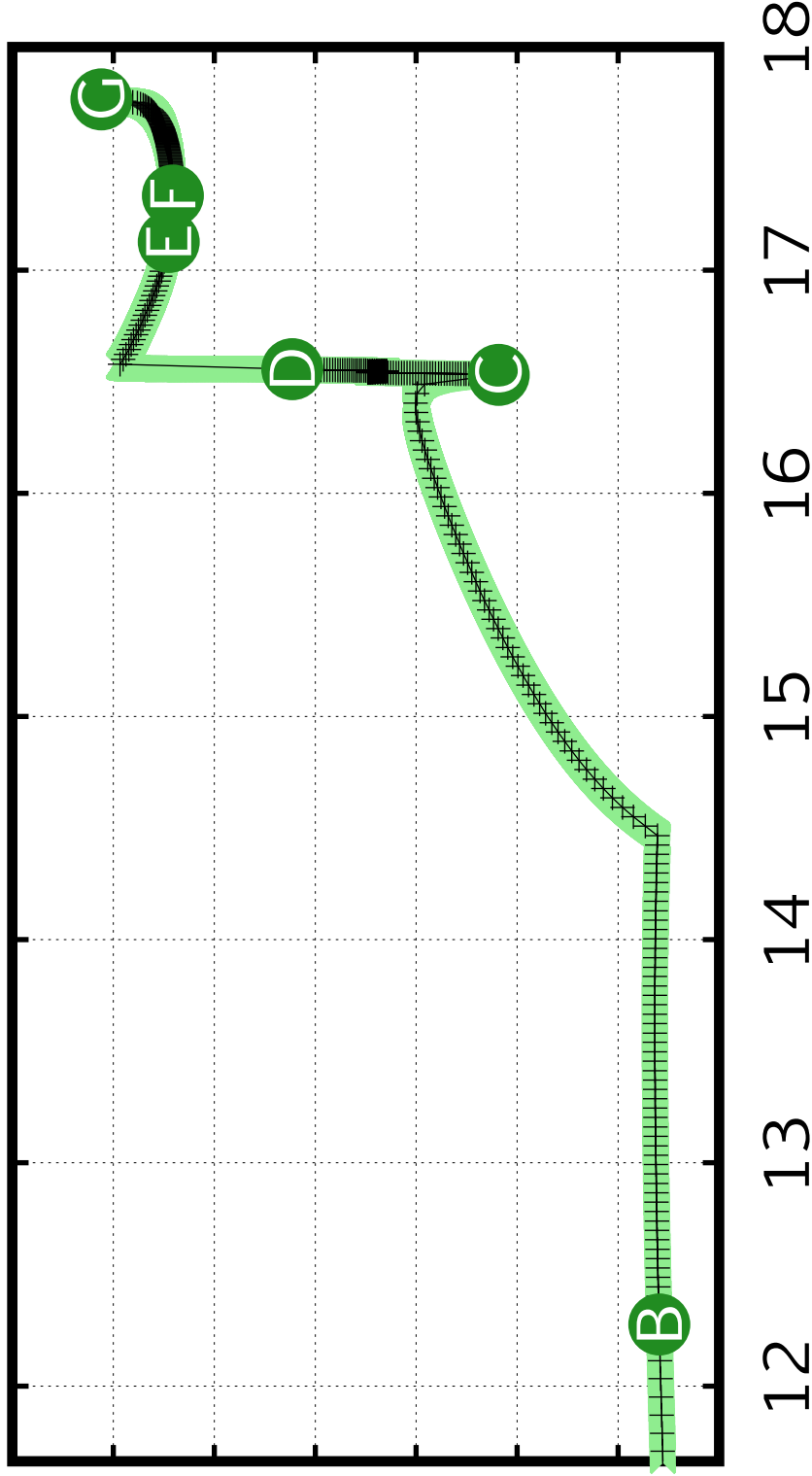
15

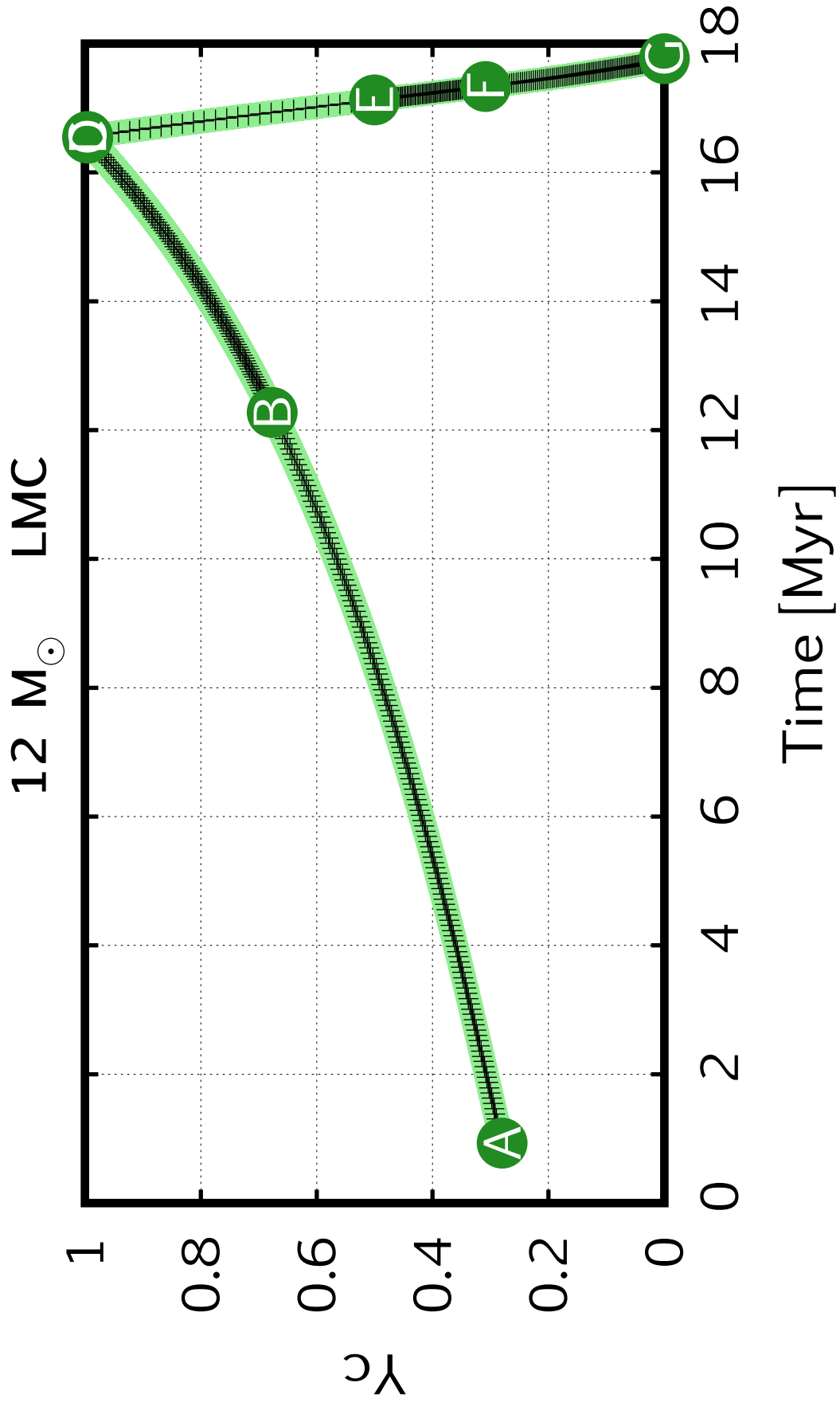
16

17

18

Time [Myr]





# 12 M<sub>⊙</sub> LMC

