

## Muons in yttrium bromide (YBr<sub>3</sub>)

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.43820	5.290	410.0	0.20773	3.0000	0.2831	3.0000	5.4697	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]	
				[MeV cm <sup>2</sup> /g]				
10.0 MeV	$4.704 \times 10^1$	4.906				4.906	$1.150 \times 10^0$	
14.0 MeV	$5.616 \times 10^1$	3.867				3.867	$2.078 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	3.050				3.050	$3.844 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	2.391				2.391	$7.597 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	2.055				2.055	$1.214 \times 10^1$	
80.0 MeV	$1.527 \times 10^2$	1.567				1.567	$3.511 \times 10^1$	
100. MeV	$1.764 \times 10^2$	1.481				1.481	$4.827 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.400				1.400	$7.617 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.361				1.362	$1.198 \times 10^2$	
243. MeV	$3.325 \times 10^2$	1.356				1.357	<i>Minimum ionization</i>	
300. MeV	$3.917 \times 10^2$	1.361	0.000		0.000	1.362	$1.934 \times 10^2$	
400. MeV	$4.945 \times 10^2$	1.381	0.000		0.000	1.382	$2.663 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.469	0.001		0.000	1.470	$5.467 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.504	0.001		0.000	1.505	$6.811 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.559	0.001	0.000	0.001	1.561	$9.418 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	1.618	0.002	0.001	0.001	1.622	$1.318 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	1.684	0.004	0.003	0.001	1.691	$1.921 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	1.729	0.005	0.004	0.002	1.740	$2.504 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	1.830	0.013	0.013	0.003	1.860	$4.719 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	1.860	0.018	0.018	0.004	1.900	$5.782 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	1.903	0.027	0.030	0.006	1.965	$7.851 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	1.945	0.041	0.048	0.008	2.044	$1.084 \times 10^4$	
30.0 GeV	$3.011 \times 10^4$	1.990	0.068	0.084	0.012	2.154	$1.561 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.020	0.096	0.123	0.015	2.255	$2.014 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.087	0.217	0.295	0.030	2.629	$3.654 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.108	0.281	0.388	0.037	2.814	$4.389 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.138	0.412	0.579	0.052	3.182	$5.725 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.171	0.617	0.881	0.074	3.744	$7.463 \times 10^4$	
270. GeV	$2.704 \times 10^5$	2.198	0.863	1.235	0.100	4.396	<i>Muon critical energy</i>	
300. GeV	$3.001 \times 10^5$	2.207	0.969	1.387	0.111	4.675	$9.849 \times 10^4$	
400. GeV	$4.001 \times 10^5$	2.233	1.333	1.912	0.148	5.626	$1.180 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.295	2.835	4.066	0.298	9.496	$1.721 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.316	3.608	5.169	0.375	11.468	$1.912 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.347	5.158	7.369	0.531	15.406	$2.212 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.380	7.530	10.729	0.768	21.408	$2.541 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.419	11.492	16.312	1.175	31.398	$2.925 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.446	15.509	21.956	1.588	41.500	$3.201 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.514	31.714	44.651	3.302	82.183	$3.873 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.537	39.884	56.062	4.183	102.666	$4.090 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	2.571	56.180	78.827	5.991	143.571	$4.418 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	2.607	80.777	113.127	8.764	205.276	$4.766 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	2.650	121.725	170.195	13.557	308.127	$5.161 \times 10^5$	
40.0 TeV	$4.000 \times 10^7$	2.681	162.829	227.404	18.465	411.379	$5.441 \times 10^5$	
80.0 TeV	$8.000 \times 10^7$	2.756	327.520	456.415	38.966	825.658	$6.114 \times 10^5$	
100. TeV	$1.000 \times 10^8$	2.781	410.019	571.032	49.557	1033.390	$6.330 \times 10^5$	