

Table F – Fractional yields of muon-containing species

As observed in diamagnetic muon states (P_D), as free muonium atoms (P_M), in muonium-containing free radicals (P_R), and the remaining fraction (P_L)

A dash indicates that the yield does not seem to have been reported, nor can a reasonable inference about its value be drawn. Temperatures are given only when significantly different from ~295K. Phases are given as gas (g), liquid (l), unspecified solid phase (s), metal (m) or crystal (c).

N.B.: neither statistical (fitting) error limits nor overall reproducibilities are given in these tables. Therefore, the reader must consult the original work in order to assess the accuracy of individual data. In many cases the possible errors are considerable, and in some cases mean values are recorded here.

code	Group	Substance	Phase (T(K))	P _D	P _M	P _R	P _L	Reference	
F1	Noble gases	He	g	1.0	0	0	0	a	
			l (4)	> 0.9	< 0.02		< 0.08	b	
F2		Ne	g	1.0	0	0	0	a	
F3		Ar	g	0.25	0.75	0	0	c	
			l (85) s (77)	0.02 0.01	0.48 0.91		0.50 0.08	d d	
F4	Kr	g	0	1.0	0	0	a		
		l (120)	0.07	0.57		0.36	d		
		s (90)	0.01	0.71		0.28	d		
F5	Xe	g	0	1.0	0	0	a		
		l (162)	0.03	0.43		0.54	d		
		s(150)	0.05	0.79		0.16	d		
F6	Gases at STP	H ₂	g	0.4	0.6	0	0	e	
F7		N ₂	g	0.16	0.84	0	0	e	
F8		O ₂	g	0.44	-	-	-	f	
F9		N ₂ O	g	0.10	-	-	-	f	
F10		SF ₆	g	0.75	-	-	-	f	
F11		CH ₄	g	0.12	0.88	0	0	e	
F12		NH ₃	l (210)	-	0.21	-	-	-	g
			s (200)	-	0.21	-	-	-	g
F13		C(CH ₃) ₄	l	0.55	0.18	0	0.27	h	
			s (209)	0.61	0.19	0	0.20	h	
F14	Liquids at STP (non-aromatic)	H ₂ O	g (420)	0.07	0.93	0	0	e	
			l	0.62	0.20	0	0.18	i	
			s (270)	0.48	0.52	0	0	i	
F15	D ₂ O	l	0.57	0.18	0	0.25	i		
		s (270)	0.39	0.63	0	0	i		
F16	CH ₃ OH	g (420)	0.13	0.87	0	0	e		
		l	0.61	0.19	0	0.20	j		
F17	CD ₃ OH	l	0.51	0.31	0	0.18	j		
F18	C ₂ H ₅ OH	l	0.59	0.20	0	0.21	j		
F19	(CH ₃) ₂ CHOH	l	0.62	-	-	-	k		

F20		Glycerol	l	0.75	-	-	-	k
F21		(CHOH) ₆	s	0.7	0	-	-	l
F22		(CH ₃) ₂ CO	l	0.54	-	> 0	-	K,m
F23		Si(CH ₃) ₄	l	0.53	0.21	0	0.26	n
F24		n-hexane	g	0.19	0.81	0	0	e
			l	0.65	0.13	0	0.22	n
F25		n-hexene	l	0.50	-	-	-	k
F26		n-hexyne	l	0.43	-	-	-	k
F27		c- hexane	g	0.17	0.83	0	0	e
			l	0.69	0.20	0	0.11	n
F28		c-hexadiene-1,4	l	0.40	-	-	-	k
F29		c-hexadiene-1,3	l	0.32	-	-	-	k
F30		CS ₂	l	0.16	0	?	-	k
F31		CCl ₄	g	0.5	0	0.5	0	e
			l	1.0	0	0	0	k
F32		CHCl ₃	g	0	1.0	0	0	e
			l	0.85	-	-	-	k
F33		CH ₂ Cl ₂	g	0	1.0	0	0	e
			l	0.70	-	-	-	k
F34		SiCl ₄	l	0.48	-	-	-	k
F35		SnCl ₄	l	0.99	-	-	-	k
F36		TiCl ₄	l	1.0	-	-	-	k
F37		CHBr ₃	l	0.85	-	-	-	p
F38		CH ₃ CN	l	0.43	0	>0	-	l
F39		CH ₂ =CHCN	l	0.28	0	>0	-	l
F40		CH ₂ =CHCO ₂ H	l	0.51	0	>0	-	l
F41		CH ₂ =CHCO ₂ C ₂ H ₅	l	0.41	0	>0	-	l
F42		CH ₂ =c(CH ₃) CO ₂	l	0.38	0	>0	-	l
F43		CH ₂ =c(CH ₃) CO ₂ C ₂	l	0.38	0	>0	-	l
F45	Aromatic liquids	C ₆ H ₆	l	0.15	0	0.65	0.20	q
F46		C ₆ H ₅ F	l	0.19	0	0.43	0.38	q
F47		C ₆ H ₄ F ₂ ($\bar{3}$)	l	0.25	0	0.45	0.3	q
F48		C ₆ H ₃ F ₃	l	0.25	0	0.3	0.45	q
F49		C ₆ H ₂ F ₄ ($\bar{3}$)	l	0.25	0	0.35	0.4	q
F50		C ₆ HF ₅	l	0.23	0	0.14	0.63	q

F51		C_6F_6	l	0.20	0	0.35	0.45	q
F52		$C_6H_5CH_3$	l	0.25	0	0.50	0.25	q
F53		$C_6H_4(CH_3)_2(\bar{3})$	l	0.33	0	0.4	0.25	q
F54		$C_6H_3(CH_3)_3(\bar{3})$	l	0.34	0	0.4	0.25	q
F55		C_6H_5Cl	l	0.23	-	-	-	k
F56		C_6H_5Br	l	0.38	-	-	-	k
F57		C_6H_5I	l	0.49	-	-	-	k
F58		$C_6H_5CH_2Cl$	l	0.35	-	-	-	k
F59		$C_6H_5CHCl_2$	l	0.46	-	-	-	k
F60		$C_6H_5CCl_3$	l	0.61	-	-	-	k,l
F61		C_6H_5OH	l	0.38	-	-	-	k
F62		$CH_2=CHC_6H_5$	l	0.17	0	>0	-	l
F63	Solids at STP	Al	m	1.0	0	0	0	r
F64		Quartz	s,c	0.21	0.7	0	0.1	r,l
F65		Graphite	c	1.0	0	0	0	s
F66		Diamond	c	0.2	-	-	-	s
F67		Polyethylene	s	0.64	-	-	-	s
F68		Polystyrene	s	0.31	-	-	-	s
F69		Polymethyl- methacrylate	s	0.38	-	-	-	l
F70		teflon	s	0.80	-	-	-	p
F71		P	s	0.11	-	-	-	s
F72		S	s	0.06	-	-	-	s
F73		CsI	c	0.14	-	-	-	s
F74		NaCl	c	0.18	-	-	-	s
F75		MgF ₂	c	0.59	-	-	-	s
F76		MgO	c	0.35	-	-	-	s
F77		Dry Ice (CO ₂)	s	0.2	-	-	-	p

For other P_D values in various materials see p, r and s, in particular.

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