

NOTE: A synthetic radioisotope is a radionuclide that is not found in nature. It is highly unstable and disintegrates in a very short period of time. There is no natural process to produce it.

ELEMENTS OF s-Block

GROUP - 1

HYDROGEN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)
^1H	99.98%		Stable	
^2H	0.02%		Stable	
^3H	Trace	β^- decay	^3He	12.32 Yr

LITHIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)
^6Li	5%		Stable	
^7Li	95%		Stable	

SODIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)
^{22}Na	Trace	β^+ decay	^{22}Ne	2.602 Yr
^{23}Na	100%		Stable	
^{24}Na	Trace	β^- decay	^{24}Mg	14.96 Hr

POTASSIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

RUBIDIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

FRANCIAM ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)
^{221}Fr	Trace	α decay	^{217}At	4.8 min.
^{222}Fr	Synthetic Radioisotope	β^- decay	^{222}Ra	14.2 min.
^{223}Fr	Trace	β^- decay	^{223}Ra	22.0 min.
		α decay	^{219}At	

GROUP - 2

BERYLLIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

MAGNESIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

CALCIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

STRONTIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

BARIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

RADIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

ELEMENTS OF p-Block

GROUP - 13

BORON'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

ALUMINIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)

GALLIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE (t _{1/2})
⁶⁶ Ga	Synthetic Radioisotope	β^+ decay	⁶⁶ Zn	9.5 hr
⁶⁷ Ga	Synthetic Radioisotope	ϵ decay	⁶⁷ Zn	3.3 d
⁶⁸ Ga	Synthetic Radioisotope	β^+ decay	⁶⁸ Zn	1.2 hr
⁶⁹ Ga	60.11%	Stable		
⁷⁰ Ga	Synthetic Radioisotope	β^- decay	⁷⁰ Ge	21 min.
		ϵ decay	⁷⁰ Zn	
⁷¹ Ga	39.89%	Stable		
⁷² Ga	Synthetic Radioisotope	β^- decay	⁷² Ge	14.1 hr
⁷³ Ga	Synthetic Radioisotope	β^- decay	⁷³ Ge	4.9 hr

INDIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE (t _{1/2})
¹¹³ In				
¹¹⁵ In				

THALLIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE (t _{1/2})
²⁰³ Tl	29.5%			
²⁰⁴ Tl	Synthetic Radioisotope			
²⁰⁵ Tl	70.5%			

NIHONIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE (t _{1/2})
²⁹⁰ Nh	Synthetic Radioisotope			
²⁸⁷ Nh	Synthetic Radioisotope			
²⁸⁶ Nh	Synthetic Radioisotope			
²⁸⁵ Nh	Synthetic Radioisotope			
²⁸⁴ Nh	Synthetic Radioisotope			
²⁸³ Nh	Synthetic Radioisotope			
²⁸² Nh	Synthetic Radioisotope			
²⁷⁸ Nh	Synthetic Radioisotope			

GROUP - 14

CARBON'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE (t _{1/2})
¹¹ C	Synthetic Radioisotope	β^+ decay	¹¹ B	20 min.
¹² C	98.9%		Stable	
¹³ C	1.1%		Stable	
¹⁴ C	Trace	β^- decay	¹⁴ N	5730 yr

SILICON'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)
²⁸ Si	92.2%		Stable	
²⁹ Si	4.7%		Stable	
³⁰ Si	3.1%		Stable	
³¹ Si	Trace	β^- decay	³¹ P	2.62 hr
³² Si	Trace	β^- decay	³² P	153 yr

GERMANIUM'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)
⁶⁸ Ge	Synthetic Radioisotope	ϵ decay	⁶⁸ Ga	270.8 d
⁷⁰ Ge	20.52%		Stable	
⁷¹ Ge	Synthetic Radioisotope	ϵ decay	⁷¹ Ga	11.3 d
⁷² Ge	27.45%		Stable	
⁷³ Ge	7.76%		Stable	
⁷⁴ Ge	36.52%		Stable	
⁷⁶ Ge	7.75%	β^- decay	⁷⁶ Se	1.78×10^{21} yr

TIN'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE (t _{1/2})
¹¹² Sn	0.96%		Stable	
¹¹⁴ Sn	0.66%		Stable	
¹¹⁵ Sn	0.34%		Stable	
¹¹⁶ Sn	14.54%		Stable	
¹¹⁷ Sn	7.68%		Stable	
¹¹⁸ Sn	24.22%		Stable	
¹¹⁹ Sn	8.59%		Stable	
¹²⁰ Sn	32.58%		Stable	
¹²² Sn	4.63%		Stable	
¹²⁴ Sn	5.79%		Stable	
¹²⁶ Sn	Trace	β^- decay	¹²⁶ Sb	2.3×10 ⁵ yr

GROUP - 14

NITROGEN'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE ($t_{1/2}$)
^{11}C	Synthetic Radioisotope	β^+ decay	^{11}B	20 min.
^{12}C	98.9%		Stable	
^{13}C	1.1%		Stable	
^{14}C	Trace	β^- decay	^{14}N	5730 yr

PHOSPHOROUS'S MAIN ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE (t _{1/2})
³¹ P	100%		Stable	
³² P	Trace	β^- decay	³² S	14.28 d
³³ P	Trace	β^- decay	³³ S	25.3 d

ELEMENTS OF d-Block

ELEMENTS OF FIRST TRANSITION SERIE (3d)

Scandium (Sc) ISOTOPES

ISOTOPE	ABUNDANCE	DISINTEGRATION MODE	DAUGHTER ELEMENT	HALF LIFE (t _{1/2})
⁴⁴ Sc	Synthetic Radioisotope	-	⁴⁴ Sc	58.61 hr
		γ decay	⁴⁴ Sc	
		ϵ decay	⁴⁴ Ca	
⁴⁵ Sc	100%	Stable		
⁴⁶ Sc	Synthetic Radioisotope	β^- decay	⁴⁶ Ti	83.79 d
		γ decay	-	
⁴⁷ Sc	Synthetic Radioisotope	β^- decay	⁴⁷ Ti	80.38 d
		γ decay	-	
⁴⁸ Sc	Synthetic Radioisotope	β^- decay	⁴⁸ Ti	43.67 hr
		γ decay	-	

ELEMENTS OF f-Block