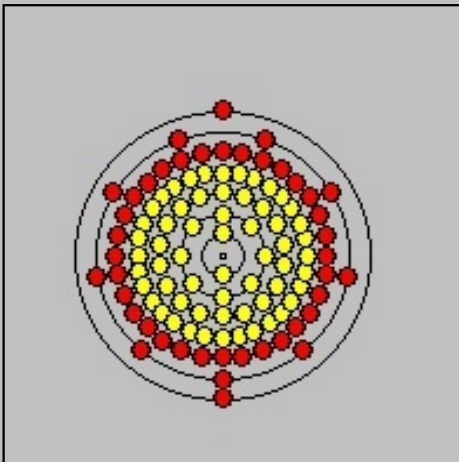




<u>Lu</u> 71	<u>Lr</u> 103	<u>Upt</u> 153	<u>Bnt</u> 203		
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# Lawrencium

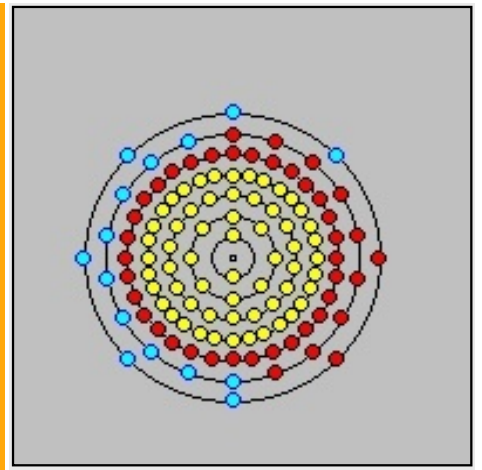
Symbol	Lr	
Atomic Number	103	
Relative Atomic Mass $^{12}\text{C} = 12.0000$	[ 262 ] 262.1097 3.6 h Neutrons 159	
<u>Significant Atomic Mass</u>	264 Neutrons 161	
Atomic Radius pm	-	
First Ionisation Energy $\text{kJ mol}^{-1}$	-	
Ionisation Energy (eV)	4.9 ?	
Electronegativity	1.3	
Density $\text{kg m}^{-3}$	-	
Molar Volume $\text{cm}^3$	-	
Thermal Conductivity $\text{W m}^{-1} \text{K}^{-1}$	10 [300 K] (est.)	
Melting Point K	-	
Boiling Point K	-	
Number of Isotopes	9	
<p><b>Isotopes</b></p> <ul style="list-style-type: none"> <li>254 Lr 13 s</li> <li>255 Lr 21.8 s</li> <li>256 Lr 27 s</li> <li>257 Lr 0.65 s</li> <li>258 Lr 4.1 s</li> <li>259 Lr 6.2 s</li> <li>260 Lr 3 min</li> <li>261 Lr 39 min</li> <li>262 Lr 3.6 h</li> </ul>		
	Inner + outer Shells	4 + 3 =7
	Inner + outer Orbitals	60 + 43 =103
	Filling Orbital	6d 1
	Ground State Electron Configuration	[Rn] 5f <sup>14</sup> 6d <sup>1</sup> 7s <sup>2</sup>



2, 8, 18, 32, 32, 9, 2

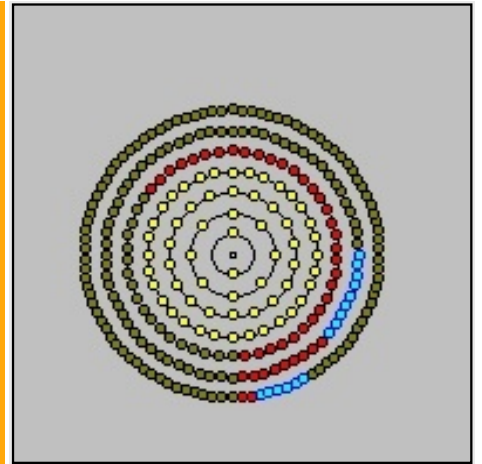
**Ground State Electron Configuration with free Orbitals (n= 15)**

0, 0, 0, 0, 0, 9, 6



**Ground State Electron Configuration with compressed Orbitals (n= 162 )**

0, 0, 0, 0, 18, 54, 90



**Singularity**

280 = 60 + 43 + 15 + 162

	s	p	d	f	g	h	i	j
1	2							
2	2	6						
3	2	6	10					
4	2	6	10	14				
5	2	6	10	14	18			
6	2	6	1	9	14	18	22	
7	2	6	10	14	18	22	26	
8								

**Term Symbol**

$^2P_{1/2}$



Discovered by A. Ghiorso, A.E. Larsh, T. Sikkeland and R.M. Latimer (Berkeley, USA) in 1961

<b>CAS Reg-ID:</b>	22537-19-5
<b>Obsolete Names</b>	Unniltrium, Unt eka-lutetium
<b>Name Derived From</b>	Named after E.O. Lawrence (b. Aug. 8, 1901, Canton, S.D., U.S./ d. Aug. 27, 1958, Palo Alto, Calif. )

American physicist, winner of the 1939 Nobel Prize for Physics for his invention of the cyclotron, the first particle accelerator to achieve high energies. Lawrence earned his Ph.D. at Yale University in 1925. An assistant professor of physics at Yale (1927-28), he went to the University of California, Berkeley, as an associate professor and became full professor there in 1930.

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APSIDIUM

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