

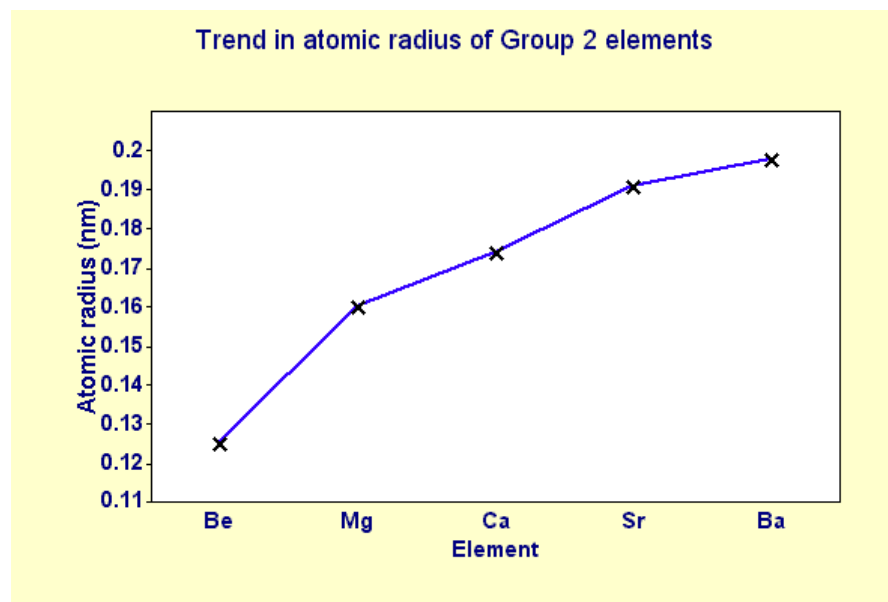
Trend in atomic radius of Group 2 elements

The atomic radius increases going down Group 2.

Table of physical data

Element	Proton number	Symbol	Atomic radius (nm)
beryllium	4	Be	0.125
magnesium	12	Mg	0.160
calcium	20	Ca	0.174
strontium	38	Sr	0.191
barium	56	Ba	0.198

Graph of physical data



Explanation of this trend

Going down Group 2:

- there are more filled energy levels between the nucleus and the outer electrons ...
- therefore the outer electrons are more shielded from the attraction of the nucleus ...
- so the electrons in the outer energy levels are further from the nucleus and the atomic radius increases.

As the number of protons in the nucleus increases going down Group 2, you might expect the atomic radius to decrease because the nuclear charge increases. This does not happen, because although the electrons in the inner energy levels become closer to the nucleus, the factors described above have a greater influence on the atomic radius overall.