VIVEKANANDA COLLEGE
THAKURPUKUR
KOLKATA-700063

NAAC ACCREDITED 'A' GRADE

Topic: Lanthanide contraction and comparison with Actinides

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Name of the Teacher: R Mondal

Name of the Department: Chemistry

Lanthanide contraction and comparison with Actinides:

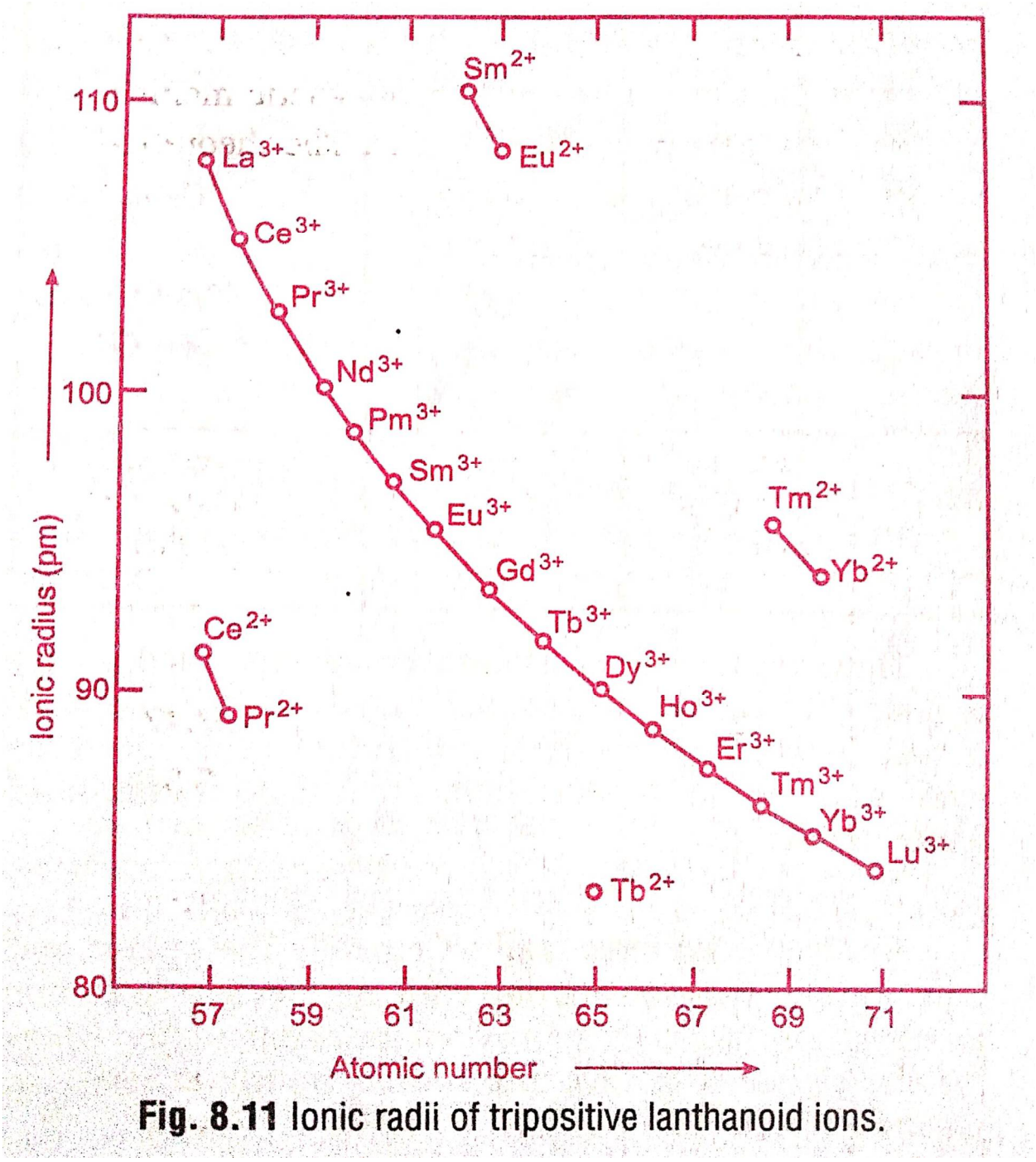

Fig. 8.11 Ionic radii of tripositive lanthanoid ions.

Table 8.20 Differences between Lanthanoids and Actinoids

S.No.	Lanthanoids	Actinoids
1.	The maximum oxidation state shown by lanthanoids is +4, the other oxidation states being +2 and +3.	The maximum oxidation state shown by actinoids is +7, the other oxidation states being +2, +3, +4, +5 and +6.
2.	Their paramagnetic properties can be explained easily.	Their paramagnetic properties are difficult to be explained.
3.	Except promethium, lanthanoids are non-radioactive.	All actinoids are radioactive.
4.	Lanthanoids do not form complexes easily, particularly with π-bonding ligands. They form complexes only with some chelating ligands.	Actinoids have a much greater tendency to form complexes. They can form complexes even with π-bonding ligands.