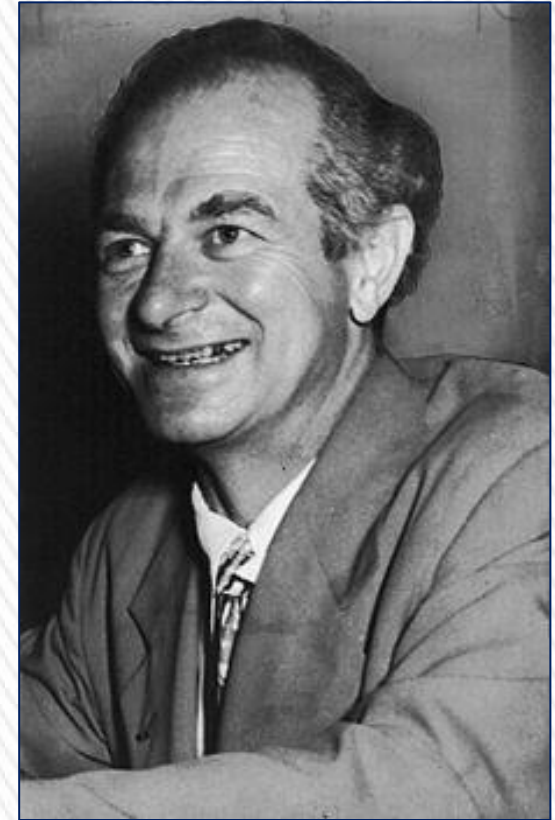
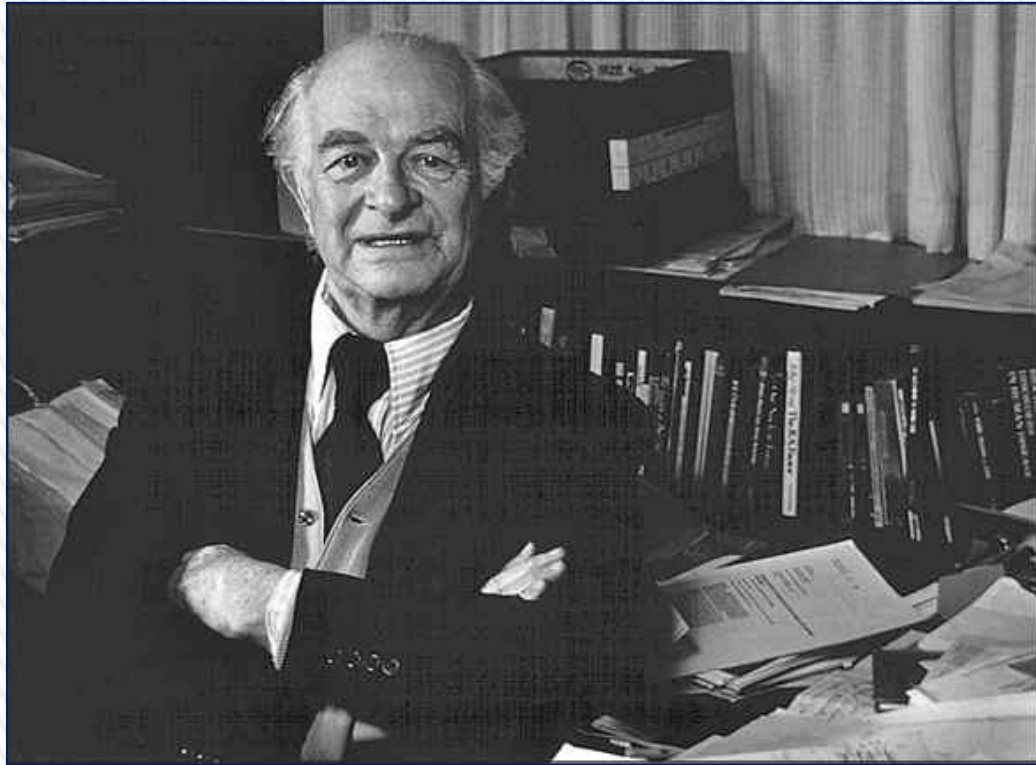


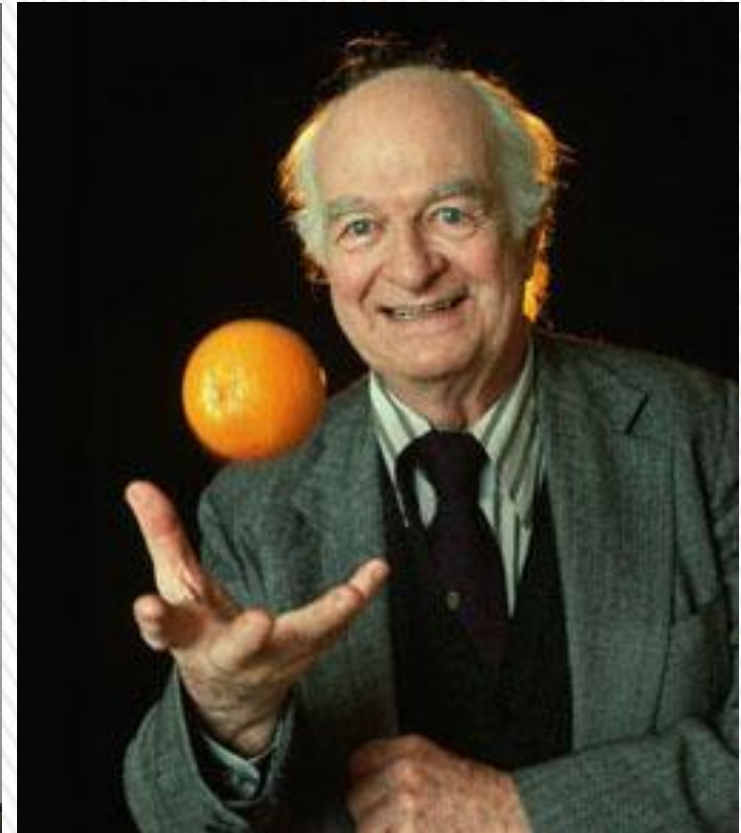
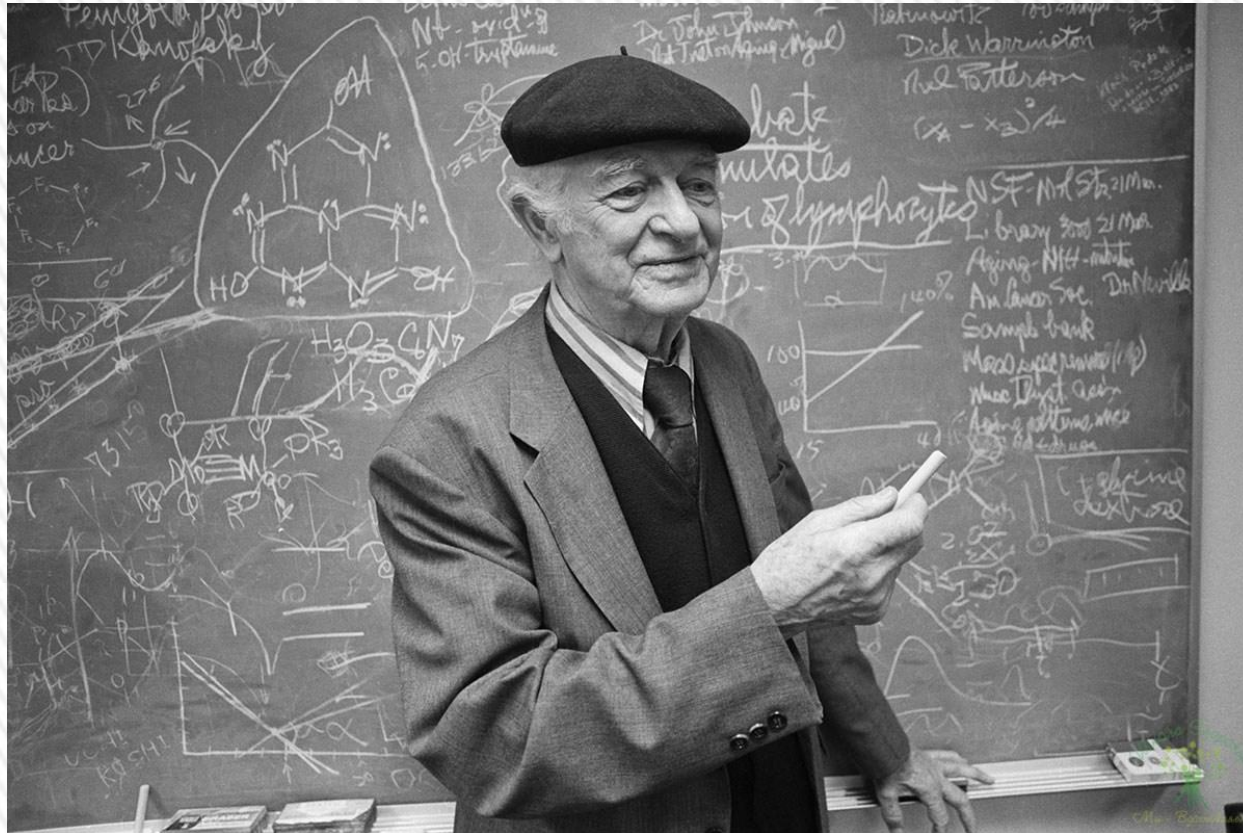


Linus Pauling – «uncomfortable» genius



Performed by Andrey Bocharov
Student of group PH-32

Linus Carl Pauling (February 28, 1901 – August 19, 1994) was an American chemist, biochemist, peace activist, author, and educator. For his scientific work, Pauling was awarded the Nobel Prize in Chemistry in 1954 and for his peace activism, he was awarded the Nobel Peace Prize in 1962.

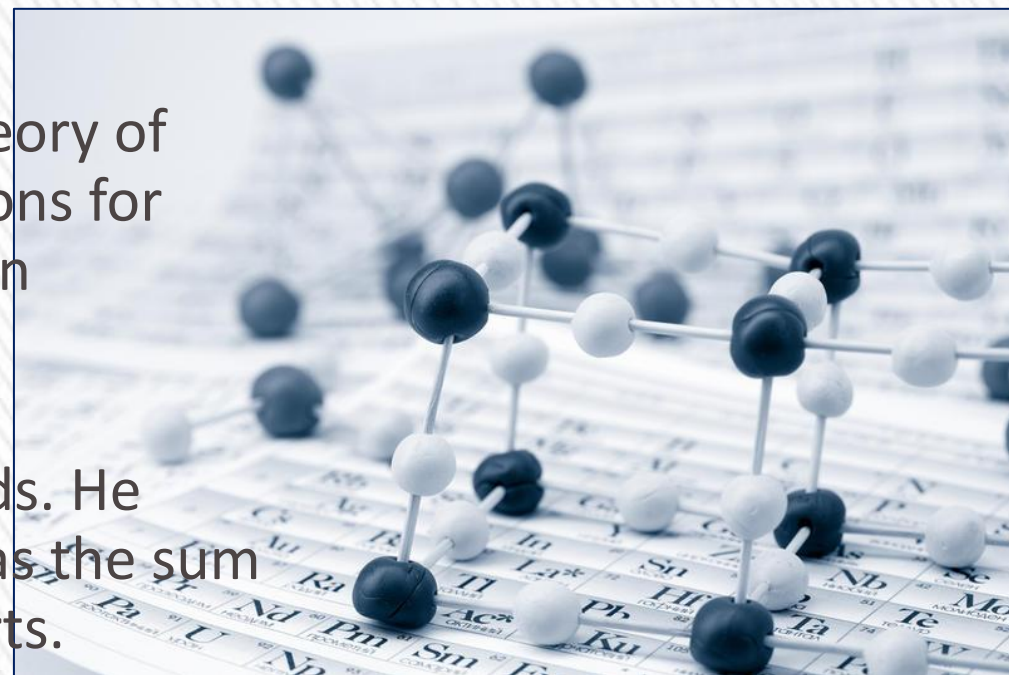


- » Pauling was born in Portland, Oregon.
- » 1904 he moved with his family to Oswego, where Pauling's father opened his own drugstore.
- » Pauling attributes his interest in becoming a chemist to being amazed by experiments conducted by a friend, Lloyd A. Jeffress, who had a small chemistry lab kit.
- » In 1917 he entered the Oregon agricultural College in Corvallis for chemical engineer and in 1919 he was offered a full-time position as a lecturer on qualitative analysis at the chemistry Department.



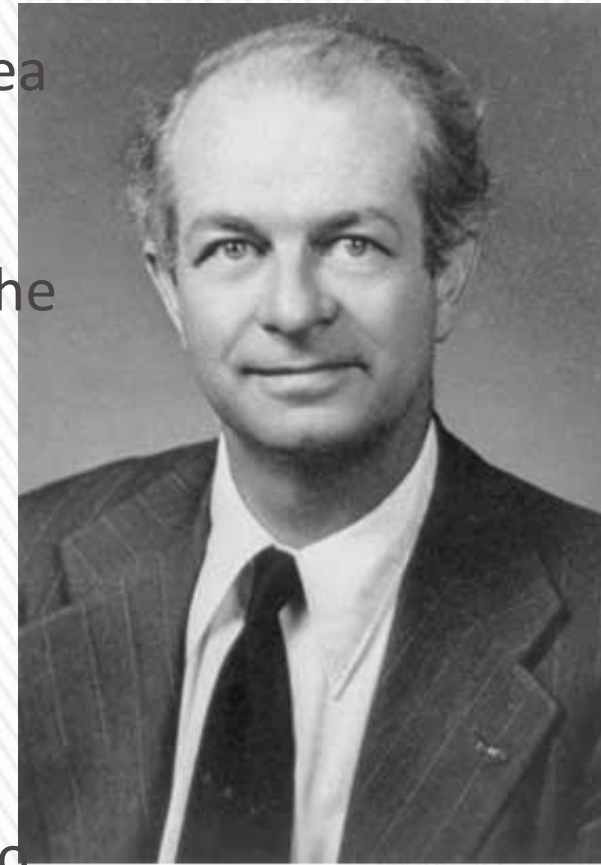
Achievements in the industry of chemistry

- » He delivered a series of nineteen lectures and completed the bulk of his famous textbook *The Nature of the Chemical Bond*. It is based on his work in this area that he received the Nobel Prize in Chemistry in 1954 "for his research into the nature of the chemical bond and its application to the elucidation of the structure of complex substances".
- » Linus Pauling introduces and substantiates the theory of curved chemical bond instead of σ, π — descriptions for double and triple bonds and conjugated systems in September 1958.
- » Pauling brought his concept of partially ionic bonds. He showed that the bond energy can be considered as the sum of two contributions — the covalent and ionic parts.



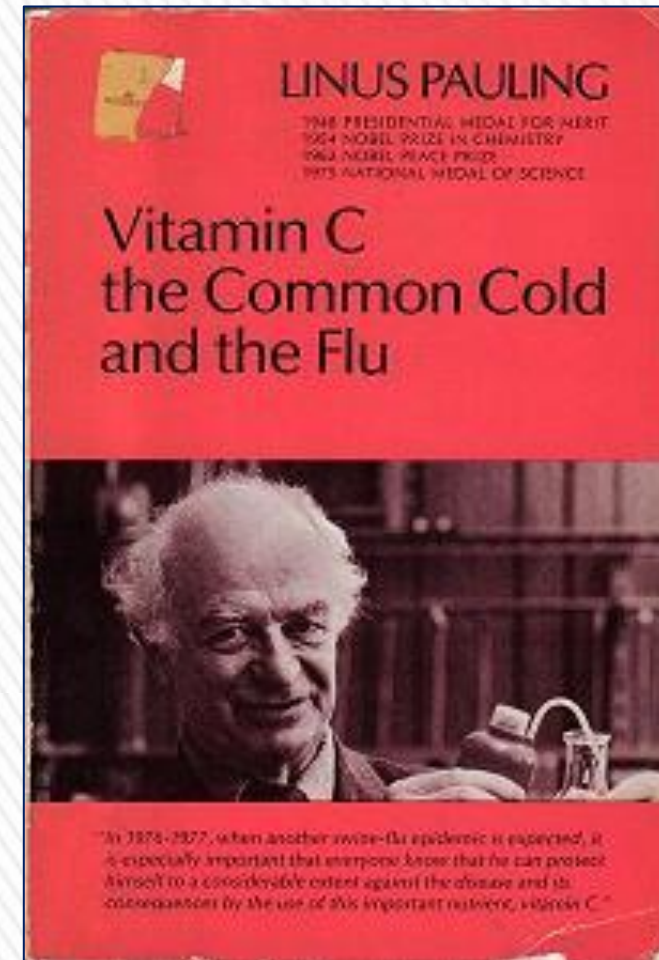
Achievements in the industry of biochemistry

- » Pauling had formulated a model for the structure of hemoglobin in which atoms were arranged in a helical pattern, and applied this idea to proteins in general.
- » In 1951, based on the structures of amino acids and peptides and the planar nature of the peptide bond, Pauling, Robert Corey and Herman Branson correctly proposed the alpha helix and beta sheet as the primary structural motifs in protein secondary structure.
- » Pauling studied enzyme reactions and was among the first to point out that enzymes bring about reactions by stabilizing the transition state of the reaction. He was also among the first scientists to postulate that the binding of antibodies to antigens would be due to a complementarity between their structures.



Medical research and vitamin C advocacy

- » In the book «Vitamin C and the common cold» (1971) he generalized the practical and theoretical arguments in support of the therapeutic properties of vitamin C.
- » In the early 1970s, he formulated the theory of orthomolecular medicine, which emphasized the importance of vitamins and amino acids.
- » In 1973 the Scientific medical Institute of Linus Pauling was founded in Palo Alto. During the first two years he was its President, and then became a Professor there.



Thank you for your attention!

