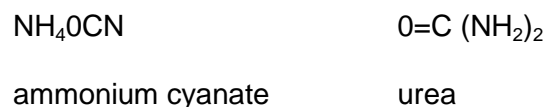


Class & Group	Seat	Name	Student number	Date	Handout Number

Reading

Since all the first-known _____ compounds had been isolated as products of the life process, it is understandable that for a time the belief was current that organic compounds in general could arise only through operation of a vital force inherent in the living cell. The Swedish chemist Berzelius (1779-1848), a great leader of the period, held that the chemical _____ of such substances was beyond the scope of possibility and apparently no experiments were made in the direct attempt to achieve such a synthesis. However, in 1829 the German chemist Wohler discovered that _____ of an aqueous solution of ammonium cyanate, a substance of purely mineral or inorganic character, resulted in production of urea, a representative compound of the organic type excreted in human _____. The result was so contrary to the thought of the period that Wohler cautiously repeated the experiment many times.

When fully satisfied with the experimental evidence, he addressed a letter to Berzelius, "I must tell you that I can prepare urea without requiring a kidney or an animal, either man or dog."



The discovery in _____ years of a number of other instances of the artificial production of organic components eventually led to abandonment of the idea of a vital force. The preparation of organic compounds presents no mystery but is merely a matter of knowledge and experimental skill.