Figure 2 showsA scanning electron microscopy image of the Pt/mordenite zeolite catalyst is shown in Figure 2, which the SEM micrography. The image indicates that the catalyst morphology has a is homogeneous morphology. High surface area improves the reactant adsorption, thus The surface area is playing a key role in the catalystic activity. Higher surface area improves the reactant adsorption. The catalysts surface area of the Pt/mordenite zeolite catalyst was measured by Brunauer–Emmett–Teller BETsurface analysis. The surface area of Pt/mordneite zeolites were was 296.69 m^2/gm. The X-ray powder diffractionXRDs pattern of Pt/mordenite zeolite (Figure 3) exhibits the most intense diffraction peaks at 2θ = 6°––30°, and it thus confirmed confirming the MOR structure of zeolite as the MOR as well as its good crystalline nature being good.

The hydroisomerization of pPure n-pentane and n-pentane in a binary mixture of pentane isomers wereas hydroisomerized performed by using the Pt/mordenite catalyst for under a wide ranges of experimental conditionss. The hydrological conversion products comprise yielded of both isomerization and creaking cracking products. Hence In the following subsections, tell the effects of reaction parameters effects with on the catalytic performance of pure n-pentane as the feed are demonstrated by based on catalytic activity and isomerization selectivity. after thisThen, the isomerization of n-pentane in the binary mixture is discussed in the last part of this section.

Figure 4 shows the conversion of n-pentane as a function of reaction temperature. The tests reactions were performed in an side H_2 environment at temperatures ranging from 150 °C–to 350 °C atnd atmosphere pressures. It clearly shows that tThe catalyst is seen to strongly catalyze the showed a high catalysing activity for the isomerization of n-pentene, particularly in the temperature range ofing in 220 °C––350 °C. Because of the low activity of the catalyst and the low reactivity of n-pentane, the conversion of n-pentane is negligible from at temperatures below 180 °C. By increasing the temperature at from 180 °C to 220 °C, the conversion of n-pentane rose greatlyincreased significantly; however, a further increasing thee in temperature further results in a slowly rises conversion. This can be caused byattributed to an increasing increase in the number of sites which that can be activated for the reaction when the temperatures increases to be in the range from of 180 °C––220 °C; butbut, the conversion rate of conversion increase begins to declining decrease as the temperature increases because of thermodynamic restrictions at bigger high temperature. In other words, an increasing the temperature always results in means a faster increaseing

Comment [A1]: The subject-verb agreement requires the use of singular past tense "was" here since surface area is singular. Please note that "were" is a plural conjugation.

Comment [A2]: BET surface area is typically specified in area per unit of mass or bulk volume. We suggest that "gm" should be "g" at this instance.

Comment [A3]: The proper use for "consist" is "to consist of" whereas for "comprise" it is just "comprise(s)." For example, "the soups comprise vegetables."

Comment [A4]: Typically, n-pentane is written with a hyphen. Also, since you used a hyphen earlier, the notation or spelling should be the same throughout the document.

Comment [A5]: To express ranges, the preposition pairs from…to and between… and are used.

reaction rate. ~~Thus a~~At low temperatures, the low reaction rates cause the actual conversion ~~will~~ to be far below the equilibrium conversion ~~because low reaction~~ rate. ~~On the contrary~~In contrast, at high~~er~~ temperatures the equilibrium conversion ~~will be more easy~~is easily achieved ~~because of~~due to ~~a~~ the high reaction rate.

Comment [A6]: Note that "because of" modifies a verb, but "due to" modifies a noun (or pronoun).

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