CHEM 2325 Exam 3 Name:

August 2, 2023 UTEP ID #:

If required, the Exam 3 retake homework will be due Friday, August 4, before 5 pm through <http://organic.utep.edu/quiz>, no exceptions or excuses. Put your name on these sheets so that you can recover your class answers. Expect an email from me this evening.

1. Which compound does not react with  to make a new carbon-carbon bond?

a.  b.  c.  d.  e. not a.-d.

1. What is the major product of the following reaction? 

a.  b.  c.  d.  e. not a.-d.

1. Which compound reacts with excess iodine and base to give a positive iodoform test?

a.  b.  c.  d.  e. not a.-d.

1. What is the major product of the following reactions? 

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1. Which carbon does not have a methyl attached to it? 
2. What is the major product of the following reaction? 

a.  b.  c.  d.  e. not a.-d.

1. What is the major product of the following reactions? 

a.  b.  c.  d.  e. not a.-d.

1. How many constitutional isomer products are possible for the following reaction? 

a. 1 b. 2 c. 3 d. 4 e. not a.-d.

1. Ignoring stereochemistry, what is the enthalpy difference of the overall reaction of 2,4-dimethylpentane reacting with chlorine and light making its major mono-chlorinated product?

|  |  |  |
| --- | --- | --- |
|  | Bond Disassociation Energies kcal/mole | Selectivity Ratios |
|  | C-H | C-F | C-Cl | C-Br |  | X-X | H-X |  | 1° | 2° | 3° |
| 1° | 98 | 107 | 81 | 68 | F | 38 | 136 | F | 1 | 1.2 | 1.4 |
| 2° | 95 | 106 | 80 | 68 | Cl | 58 | 103 | Cl | 1 | 4 | 5 |
| 3° | 91 | 106 | 79 | 65 | Br | 46 | 88 | Br | 1 | 80 | 1700 |

a. -25 b. -28 c. -30 d. -33 e. not a.-d.

1. Which reaction sequence does not make 3-hydroxybutan-2-one?

a. b. c. d.  e. not a.-d.

1. What is the major product of the following reaction? 

a.  b.  c.  d.  e. not a.-d.