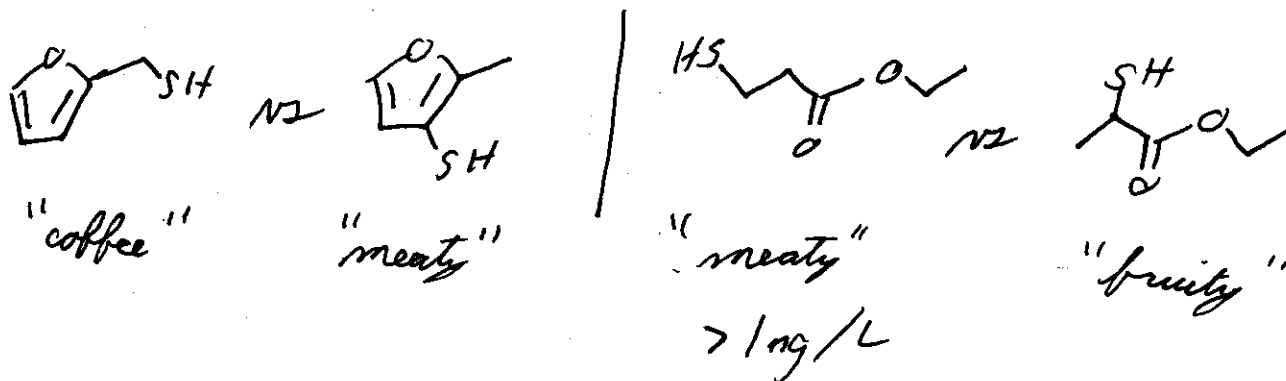
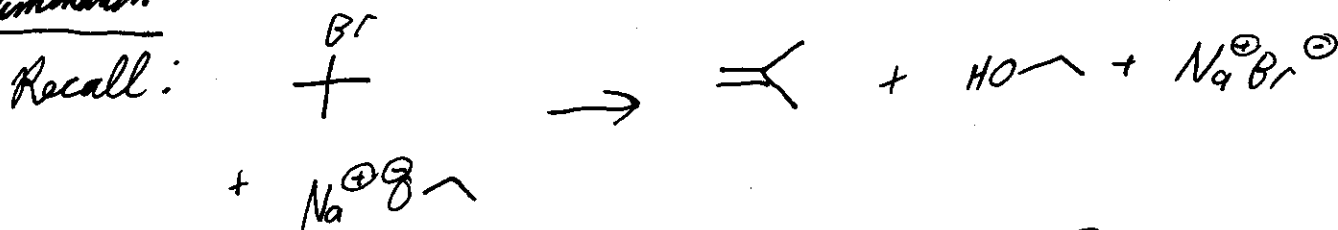


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For amusement: Thiols that contribute to wine aromas



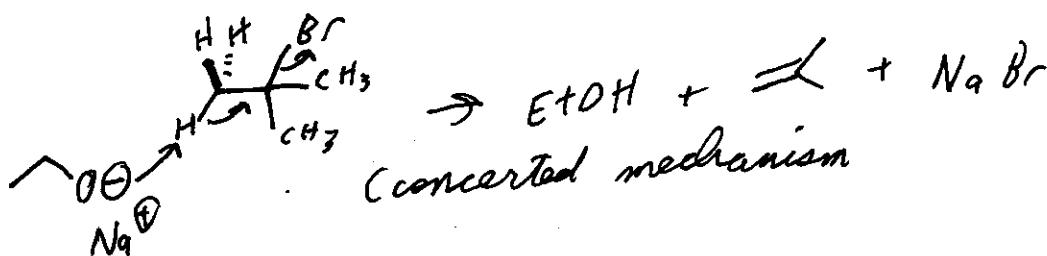
Elimination



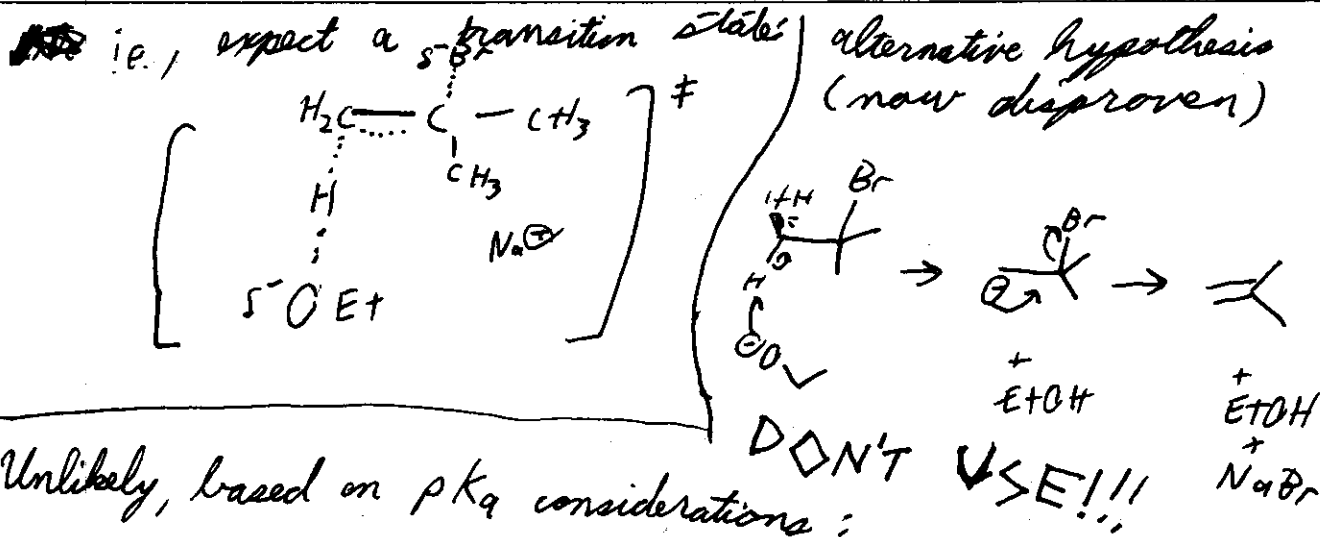
Kinetics Analysis: $\text{rate} = k[\text{EtOH}][(\text{CH}_3)_3\text{CBr}]$
 i.e., overall $\propto 2^{\text{nd}}$ order process (2 species present in transition state $\propto 1^{\text{st}}$ order in alkyl halide & 1^{st} order in base)

Thus, "E2" $\rightarrow$ bimolecular
 elimination

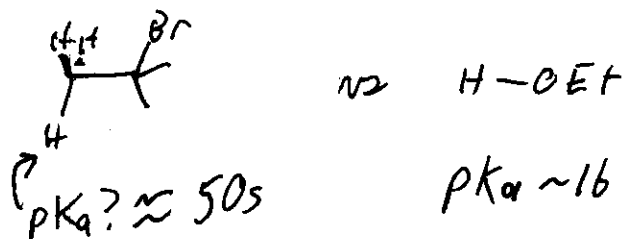
Consistent w/ proposed mechanism:



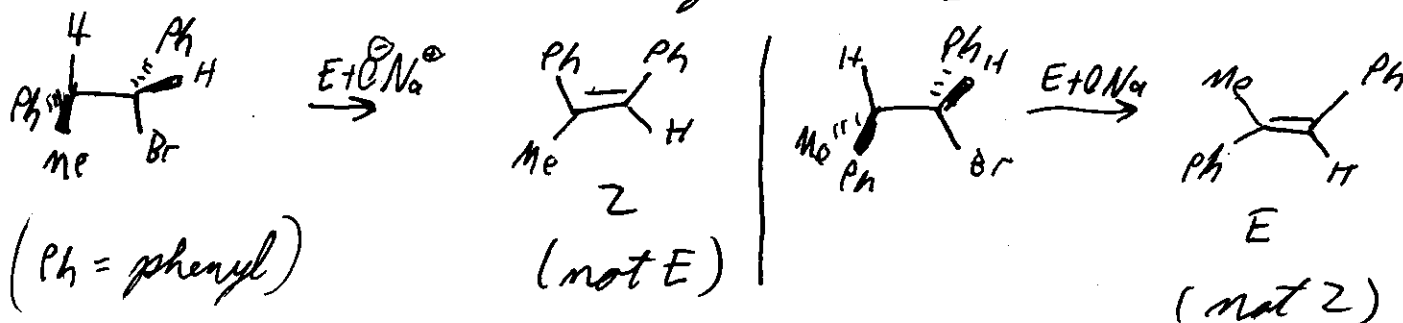
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Unlikely, based on pK_a considerations:



• Invalidate the "carbon anion intermediate" hypothesis w/ stereochemically defined starting materials

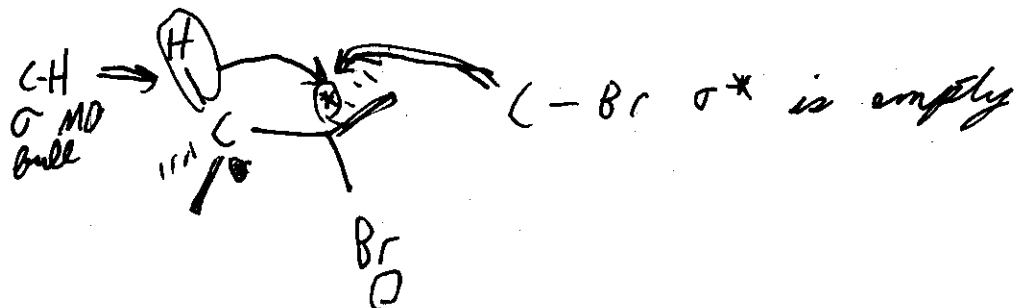


• These observations require concerted mechanism (rule out carbanion intermediate) and require anti relationship between H & Br (LG)

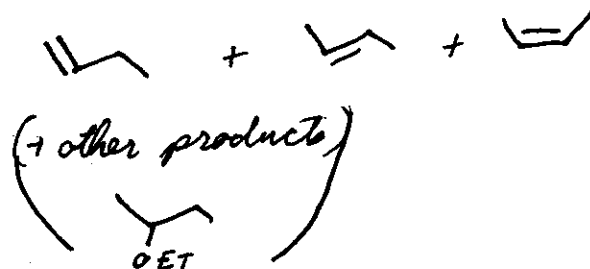
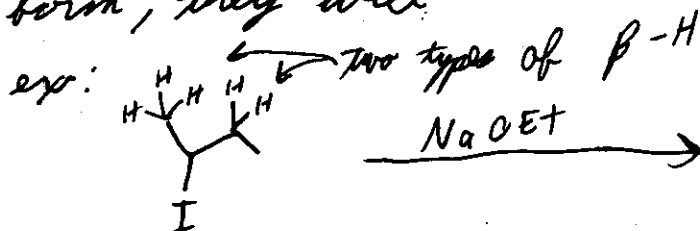
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M.O. rational for anti-relationship of H & LG



Regioselectivity: In general, if multiple alkenes can form, they will



Note: Zaitsev's Rule

$\Rightarrow$ Don't worry about

S_N^2 vs $E2$

• conditions that strongly favor S_N^2

• " " " " $E2$

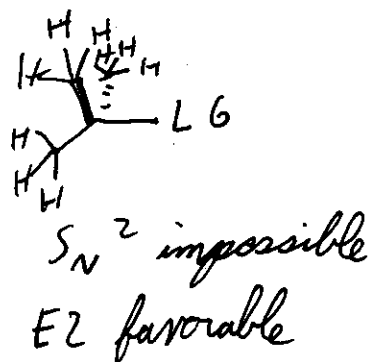
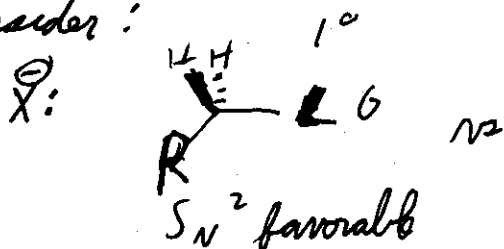
• conditions likely to lead to both processes

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key considerations:

1) Structure of alkyl halide (Recall large steric effect on S_N^2)

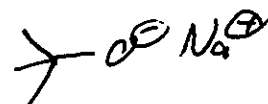
consider:



2) Structure of base / Nu^-

• Again, steric bulk factors

$E2$ over S_N^2 classic "bulky" base



$NaOtBu$

or

$+ BuCNa$