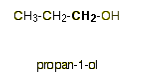
**Name: Bulus Ritkhat Amos**

**Dept: medicine and surgery**

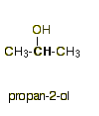
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**1. classification of alcohols**

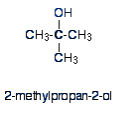
**Primary alcohols:** are those alcohols where the carbon atom of the hydroxyl group(OH) is attached to only one single alkyl group. Some of the examples of these primary alcohols include Methanol (, propanol, ethanol, etc. The complexity of this alkyl chain is unrelated to the classification of any alcohol considered as primary. The existence of only one linkage among –OH group and an alkyl group and the thing that qualifies any alcohol as a primary.



**Secondary alcohols**: are those where the carbon atom of the hydroxyl group is attached to two alkyl groups on either side. The two alkyl groups present may be either structurally identical or even different.



**Tertiary alcohols**: are those which feature hydroxyl group attached to the carbon atom which is connected to 3- alkyl groups. The physical properties of these alcohols mainly depend on their structure. The presence of this -OH group allows the alcohols in the formation of hydrogen bonds with their neighbouring atoms. The bonds formed are weak, and this bond makes the boiling points of alcohols higher than its alkanes.



**2. solubility in water**

Alcohols are soluble in water. This is due to the hydroxyl group in the alcohol which is able to form **hydrogen** bons with water molecules. Alcohols with a smaller hydrocarbon chain are very soluble. As the length of the hydrocarbon chain increases, the solubility in water decreases.

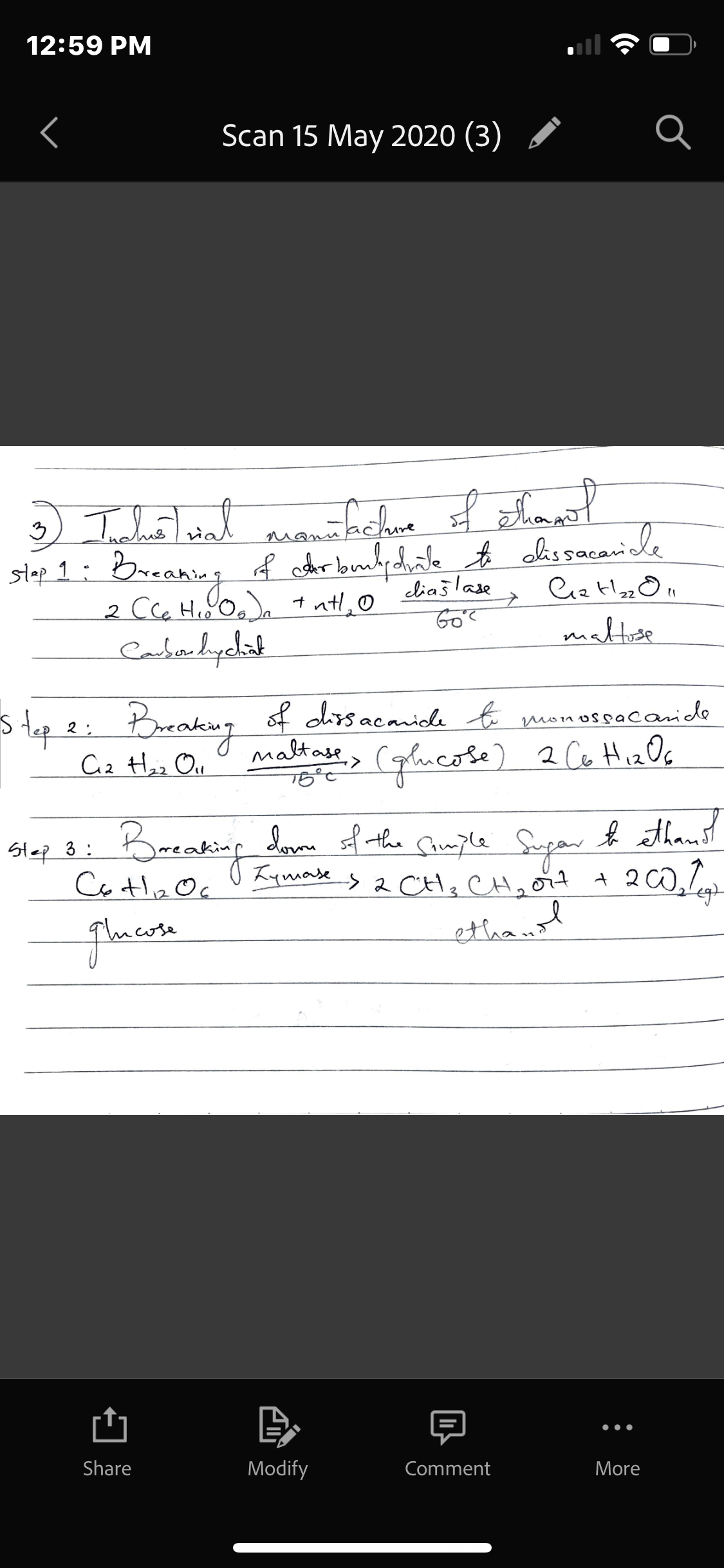
**Solubility on organic solvents**

Alcohols contain two groups of different polarities. The alkyl group is a chain of one or more carbon atoms and some hydrogen atoms--this is a non-polar group of atoms. The other group is an -OH, which is the polar end of the molecules.

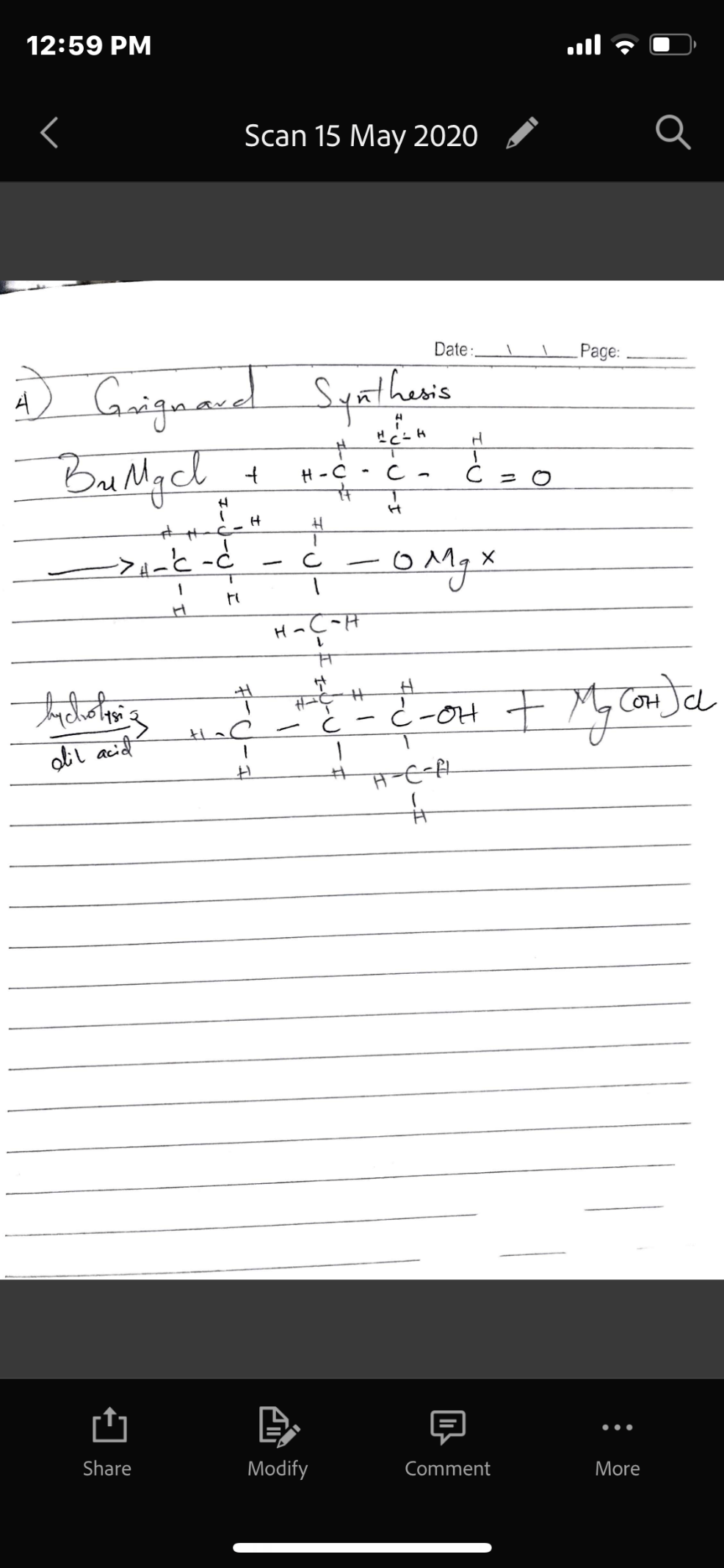
The non-polar alkyl group enables alcohols to interact with non-polar organic molecules. The polar group interacts with polar water molecules, and can also hydrogen bond with water.

As the size of the alkyl group gets larger, alcohols become less soluble in water. Alcohols with 2 (ethanol) or 3 (n-propanol and iso-propanol) carbon atoms are miscible with water and are great solvents for non-polar organic compounds.

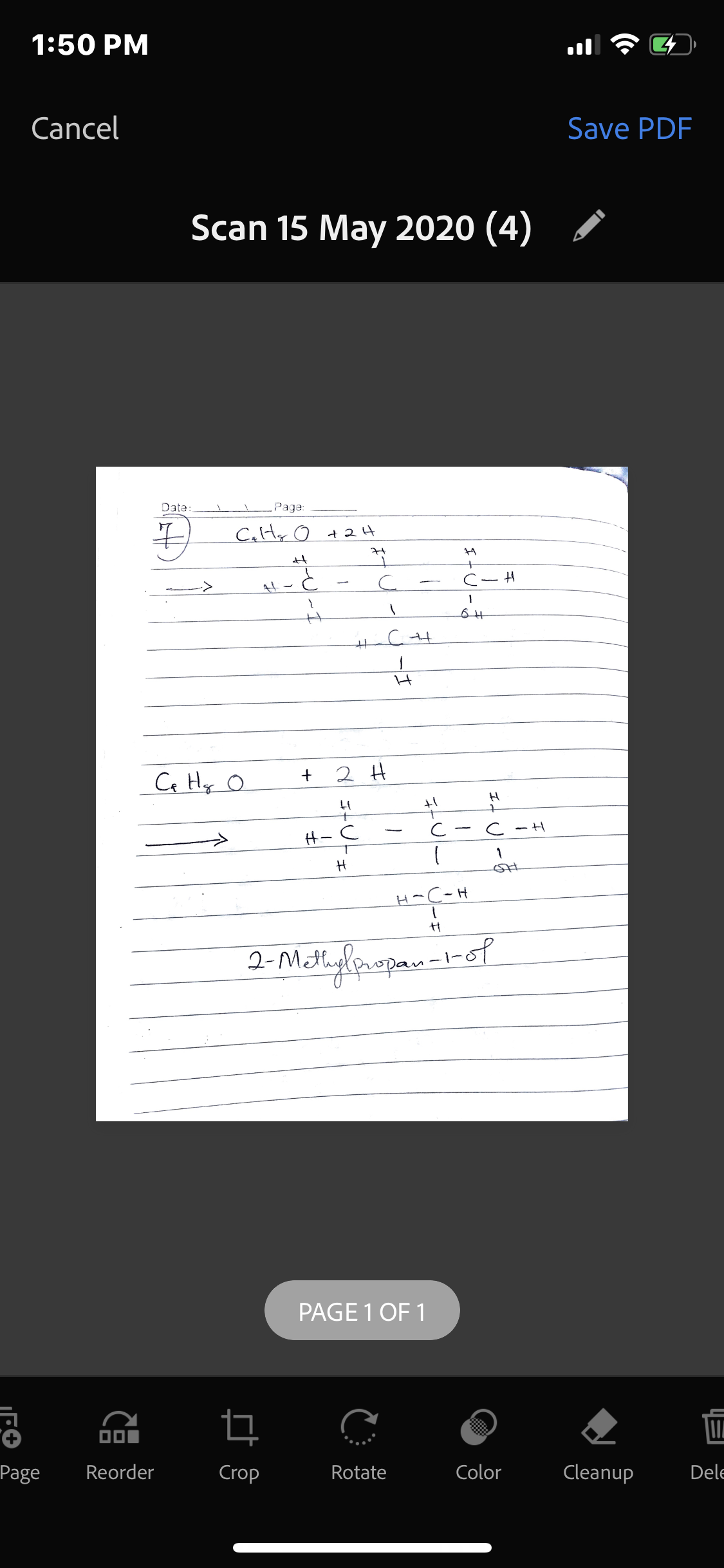
**3**

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**4.**



**7.**



**8.**

