Convenient Synthesis of Schiff Bases

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Abstract: The chemistry is the broad field in which there are many of research work and studies are present. There are many reaction and chemical which are practically unstable or decomposed on contact with air, water and light. Hence, there is the need to make same changes and synthisze the new product with new property. In the present work the synthisis of schiff's bases with new method and property.

Introduction:

Sulphonamide is also called sulpha- drug. The utility of sulphonamide in the treatment of various diseases has been well established. The sulphonamide represents an important class of biologically active compound. Para- amino benzene sulphonamide and their derivative are known to possess antibacterial activity. Recently, it was found that suphonamide can be used as an anticancer and anti – HIV agent.

Sematilide, Sulfabenz, Glumidine and Sorternol are sulphonamide derivatives and widely used as antiarrhythmic, antibacterial, antidiabetic and Bronchodilator agent, respectively.

Schiff bases are well known for their pronounced biological activities. The nitrogen analog of ketone and aldehyde are called imines, azorrethines or Schiff bases. Imines are the preferred name an imines are the condensation product of primary amine and carbonyl compound.

There are various methods for the synthesis of Schiff bases some these methods are as followed:

1) Eisch et al has synthesized bis- dichloraryl imides as potent iminating agent and are successfully used for imination of carbonyl group of aldehyde, ketones and alpha, beta unsaturated carbonyl.
2) Mazumdar et al and Mahapatra and his co- workers have reported the synthesis of imines by performing the condensation of aryl aldehyde and amino thiazoles in refluxing alcohol in presence of catalytical amount of piperdine.
3) Literature revels that primary, secondary and tertiary amine can add to aldehyde and ketone to give different kinds of product. When ketone reacted with primary amine it gives N substituted hemiketals which loses water to give the stable Schiff bases.

Form these and related observation it has been concluded that there some demerits of literature method.

1) Several hours are required for the completion of reaction.
2) Poor products and moderate yield were obtained.

3) Methods are not ecofriendly.

Present Work:

In the present work an attempt has been made to improve the synthetic pathway for the synthesis of Schiff's base. In order to overcome all literature demerits it was throught to improve it by using such solvent which is non volatile, water soluble, having high boiling point and ecofriendly.

PEG aqueous solution have been widely used in many different kinds of reaction system it is having low toxicity , low volatility and biodegradability represent important environmental characteristics. In addition to aqueous PEG solutions may often substitute for expensive often toxic PTCs.

Experimental Section:

Synthesis of 4-(4'-Hydroxy benzylidene- amino) benzene sulphonamide.

A mixture of sulphonamide 1.72gm (0.012 moles) and p-hydroxyl benzaldehyde 1.46gm (0.012 moles) was taken in Polyethylene glycol (3 to 4 ml) it was reflux for 3 to 4 hours. Then reaction mixture is allow to cool and poured on ice cool water. Filtered off, dried and recrystallized with ethanol.

Similarly, the other compound of the series were prepared. The physical data of all compounds are mention in the table below

Sr. No.	R	Molecular Formula	Molecular Weight	% Yield	Melting point (^{0}C)
1	p-CH_3	C_8H_8O	120.15	72	183
2	m-NO_2	$C_3H_5NO_3$	151.12	65	94
3	p-Cl	C_7H_5ClO	140.57	81	220
4	p-OH	OHC_6H_4CHO	122	69	186

Conclusion:

In the present work the synthesis of the of the various compounds using PEG and others chemical moiety is done. So, that we shall get the simple synthesis the different bases with simple method.

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