Review of Literature

The literature review of the Embelin is extracted from empelia ribes at a set of specified conditions, which is determined by UV-Vis technique as per Ganesan et al (2010). The Embelin will be converted into its Ester benzoyl substituted derivatives and found that has lowering lip properties. The Embelin is one of the natural drugs used for many medical utility; As per Radhakrishnan et al (2011) the natural benzoquinone extract derived from embelia ribes has antibacterial functions, As per Srinivas, (2010) the embelin derivatives has anticancer properties, As per Jindal et al (2012) the Antioxidant Activity like embelin has the Ardisia crispa molecule, as per Poojari et al (2010) Embelin has Chemopreventive and Hepatoprotective Effects in the presence of on N-Nitrosodiethylamine and Carbon Tetrachloride Induced Preneoplasia and Toxicity in Rat Liver, as per Radhakrishnan et al (2011) embelin molecule has cosmetic properties in its usage, as per Prakash et al (2011) the In Vitro and In Vivo Anticancer Activity of Bacoside A from Plant of Bacopa Monnieiri (Linn), as per Dai et al (2011) the Embelin enhances therapeutic efficacy of ionizing radiation in prostate cancer, hence embelin is being used as cancer inhibitor, as per Maulik et al (2009) the embelin molecule contains Embelia ribes has the properties of antifungal activity and many others medical usages since long time.

Many of the metallic co-ordinate complexes of embelin are synthesized and characterized. As per Rani et al (2010) embelin zinc (II) complex is synthesized called Ichlorobis (Emnbelinate), as per Rani et al (2010) Embelin cobalt (II) complex is synthesized and characterized. Hence many other metallic complexes of embelin are being used as specific medical usages. The embelin metallic co-ordination complex also has thermal stability and the co-ordination covalent bond formations are also proven in may studies including the kinetic properties of embelin metal derivatives or meta complexes, as per Singh et al (2012) Kinetics and Thermal Decomposition of Sm (III) complex with Embelin (2,5-Dihydroxy-3-Undecyl-p-Benzoquinone) had been studied and found that the thermal decomposition around 245 °C by Differential Scanning Calorimeter (DSC).
In the medical treatment, some of the treatments will be planned for short time duration and few other treatments are being carried out as long time treatment, it is depends up on the drug administrations and the drug kinetic properties. As per Buchwald et al, (1980) long-term treatments are carried out controlled manner. As per Drent et al. (1993) the embelin derivatives has inhibition properties by acting on of lipases molecule at cell levels. In some other usage like lowering the plasma triglycerides as per Liu et al (1994), which was tested by alteration of Lipid Profiles in Plasma of Transgenic Mice to Human Lipoprotein Lipase which, increased the lipoprotein density.

The current trend around the world, in human beings is opposing the obesity or over weight, in other words avoiding the unwanted or extra body weight. All the humans are interested to be fit about physically; at the same time hesitate to oblige the diet behavior. In general adoption of a diet containing rich fat and this is being continued in the modern life style for all expect the hard working persons. Such enormous administration of fat containing foods will lead to accumulations of fat continuously in the various parts of body.

All the fat are not being used daily or burned daily, hence the fat is being accumulated; in the various parts and various levels in the body. Since the populations of mankind is being in raising order, the obesity is also being raised as inter related of populations. The obesity and gaining more weights would be genetic properties in the enzyme level as per Wong et al (2002) hence many of the genetic disorder provide the body nature like their parents including body weight at their later stages. The human lipoprotein lipase or hepatic lipase have decreased levels of plasma triglycerides and an increased level of high density lipoprotein as per Krapp et al. (1996) and Wong et al (1991), the outcome of hepatic lipase also alone. Lipoprotein lipase has physical dissimilarities due to the irregular metabolism, hence it is believed that the regular. As per Jaye et al (1999) metabolism is being processed by the function of lipase. Availability or presence of High-density lipoprotein / fat in the body is inversely related to the cardiovascular disease. Controlling or maintaining of cholesterol level in the body is being balanced by the genetic properties. The metabolism of the high density lipoprotein or fat is being controlled or depends up on the Lipoprotein lipase (LPL) & hepatic lipase (HL), the LPL & HL are belonging from
Triacyl Glycerol Lipase (TGL) family. Hence the TGL and related lipase are responsible to the body metabolism, if these are not functioning regular or properly the body metabolism will not be perfect and hence the fats / cholesterol would not be properly re-cycles or utilized, this will led to deposition of extra cholesterol in the body system. As per Hixenbaugh et al (1989) the benzo quinine based (embelin) molecule controls or being influenced may medical activities like overweight, obesity, hyperlipidemia, hypercholesterolemia, hypertriglyceridemia, pancreatitis, diabetes, atherosclerosis, other cardiovascular diseases. The Lipases has the controlling properties of lipid lowering activities, but the maximum lipase are being produced by yeast are available commercially, hence the purities of the lipase is very less; which contains many of the isomers, which is not performing the lipid lowering activities, hence purification of lipase is important as per Yadav et al (1998)

The obesity will leads to many associated effects like, extra weight, diabetes, heart (cardiovascular) problems, thyroid and hypertension problems. Hence controlling of the obesity is also being importance task in the present circumstances. Controlling of fat accumulation has to be controlled, in terms of burning the extra energy / fat, through some inhibiting agent or aid participation. The aid / inhibiting agent has to be act at the cell levels. There are two important lipase are used for the accumulation, catabolism and reforming of Chappell et al (1994), Winkler et al (1979) lipoproteins along with phospholipids. Hepatic lipase and lipoproteins are very active, multifunctional proteins on the surface of the peripheral tissue cells including on liver cells.

These two hepatic lipase and lipoproteins are called enzymes, which participate in reverse fat (cholesterol) transmission processes. These Gupta et al (1989) enzymes will transport the fat from Faustinella et al (1992) peripheral tissue to liver; where the liver will do the extraction processes are recycling the cholesterol / fat. There the polymeric or protein lipase will be act to Langer et al (1984), Langer et al (1983), Langer, (1990) release the drug in a controlled manner.

The redirected or reversed fats / cholesterol are processed in liver of rat and human, the
molecular mechanism is attained as per Lowe (1997). The two types of novel Human Pancreatic Lipase Related Proteins, hPLRPI and hPLRP2 Differences in colipase dependence and in lipase activity as per Giller et al (1992). During the metabolism depend on the Glycogen group of lipase and hyaluronate as per Winkler et al (1990). The pancreatic lipase and the other group of the same family activities are elaborated by Verger (1984); hence evidenced that the pancreatic acid (liver juice) play a vital role in the processes of eliminating, extracting or recycling of cholesterol. Where the insulin will be put in to the action by intestinal absorption of very long chain molecules like fatty acid of Goldberg et al (1988), Goldberg et al (1982) triglyceride and hence the extra fat will be reduced or controlled by lipid lowering agents. As defined Giller, T. et al. (1992). Lipolytic enzymes are water insoluble in nature, hence the enzymes will interact on the water-lipid junctions, this nitration will all the area of pancreatic lipases and also on the homologous hepatic and Shimada et al (1993), Ranganathan et al (1995) lipoprotein lipases inter-phase junctions.

Embelin is one of the natural lipid lowering agents by the base molecule benzoquinon and its hydroxyl group along with its 11 carbon chain. The modification of the molecules by substitution on its hydroxyl group will be derived in a general name as substituted benzene derivatives of embelin molecule.

The following molecules are taken up for the lipid lowering proprieties study.

2,5-Di-O-(4-chlorophenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 33)
2,5-Di-O-(2-bromophenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 34)
2,5-Di-O-(4-bromophenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 36)
2,5-Di-O-(2-iodophenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 37)
2,5-Di-O-(3-fluorophenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 38)
2,5-Di-O-(3-nitrophenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 40)
2,5-Di-O-(2-fluorophenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 41)

2,5-Di-O-(4-Nitrophenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 42)

2,5-Di-O-(3-methoxyphenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 44)

2,5-Di-O-(4-methoxyphenylcarbonyl)-3-undecyl-1,4-benzoquinone (RLS 45)

(Where the RLS is notation is short note for identification or reference in short form)

All these molecules will be subjected to analysis by HPLC for determining the Quantification method.