Betulinic acid is one of the pentacyclic triterpene classes that has a high selectivity in its anticancer activities. Betulinic acid can be found in some Solanum species, so it is argued that betulinic acid can also be identified in the S. mammosum species. It is suggested that the changes of S. mammosum callus from F to CGS will result in the change of chemical compound. The microscopic analysis of F and CGS calluses incision shows a different appearance with the phloroglucin HCl coloring, the cell wall of the CGS callus shows red color which means that it contains lignin, while the F callus does not. The 4 weeks old F and CGS calluses are extracted in three steps, n-hexane, acetone, and chloroform after hydrolyzed of the acetone residue with HCl 2N. Each extract was analyzed with TLC beforehand, then the n-hexane and acetone extracts were also analyzed using GC and GC-MS. The result shows that the chemical compounds identified in S. mammosum F callus include cholesterol, campesterol, stigmasterol, sitosterol, and lupeol; whilst the compounds identified in S. mammosum CGS are cholesterol, campesterol, stigmasterol, sitosterol, lupeol, isofucosterol, cycloartenol, 24-methylene cycloartanol, betulinic acid, dan serratenediol. Therefore, it can be concluded that the betulinic acid identified in S. mammosum CGS callus and the change of S. mammosum callus culture form have caused change in the chemical compound.

Keyword : betulinic acid, anti cancer, lignin, steroid, triterpene, S. mammosum F callus, S. mammosum CGS callus