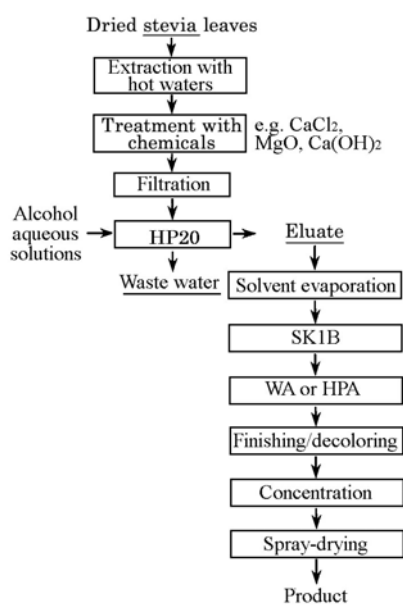


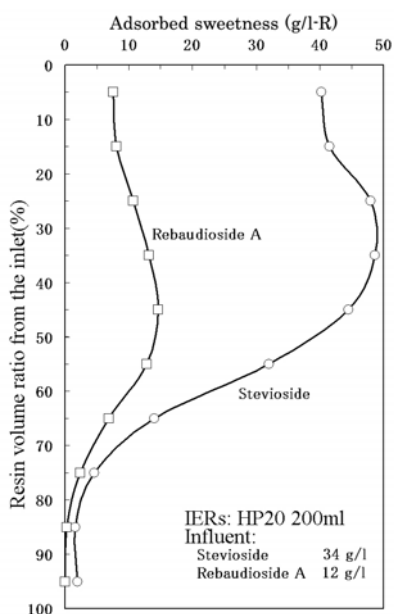
Refining of Stevioside

Steviosides are diterpene glycosides that are contained at 10 ~12% concentration in the leaves of compositae such as *Stevia rebaudiana* Bertoni. Stevioside, rebaudioside A, B, C, D, E and dulcoside A are typical compounds. These compounds with little calories have 60 ~300 times as sweet as sugar, and thus large amount of them are manufactured in Japan that has little sweetness resources.

The manufacturing process in Fig.VIII-10-1 is as follows: a) extraction with hot water from dried stevia leaves, b) coagulation with reagents, c) filtration, d) concentration to 7 ~8 times as high, e) adsorption by synthetic resins, e.g. HP20, f) elution with alcohol solution, g) evaporation of alcohols, h) demineralization and decolorization by two-bed and two-tower system of SACERs, e.g. SK1B, and AERs, e.g. WA30 and HPA25, i) finishing refining (A/C or UF membranes), j) spray-drying. In some cases to heighten sweetness 100 times as high sugar, dextrin is added before spray-drying. Adsorbed amount of sweet ingredient is about 46 g/l-R, demonstrated in Fig.VIII-10-2, lest such sweet ingredient leaks.



[Fig.VIII-10-1] Manufacturing of stevia sweetener



[Fig.VIII-10-2] Adsorption distribution of sweetness in HP20