

## Optimization of accelerated water extraction for ginger bioactive compounds

### ABSTRACT

This paper investigated the optimum recovery of ginger bioactive compounds (6-, 8-, 10-gingerols and 6-shogaol) based on semi-batch and batch systems in accelerated water extraction. The optimum is determined based on peak value i.e optimum recovery of batch system to semi-batch. The peak value of 6-, 8-, 10-gingerols and 6-shogaol are 64.6 %, 47.2 %, 30.6 % and 135.6%. 6-shogaol has the highest peak value with exceeding than 100% because of the -hydroxyl in gingerols is dehydrated to form shogaol. The degradation rate,  $k_{deg}$  has good correlation in first order rate. The highest  $k_{deg}$  are found in 8-, and 10-gingerols.

**Keyword:** Ginger bioactive compounds; Peak value; Accelerated water extraction; Degradation; Optimum