

Figure captions

Fig. 1. TPC (A) , TGP(B), OTG(C), THP(D), AV (E) and PV (F) of French fries fried in soybean oil (F-SO) , rapeseed oil (F-RO), sunflower oil (F-SuO), palm oil (F-PO) at different frying periods.

Fig.2. Change of the functional group spectra for French fries sample fried in SO (A), changes of absorbance peak at 3471cm^{-1} (B), 1696 cm^{-1} (C), 968 cm^{-1} (D) for French fries fried in different oils during frying.

Fig. 3. Establishment of prediction model by BP-ANN. (a) The prediction model of TPC; (b) The prediction model of TGP; (c)The prediction model of THP; (d) The prediction model of AV; (e) The prediction model of PV.

Fig. 4. Establishment of external validation model predicted by BP-ANN and the actual value measured by standard method. (a) TPC; (b) TGP; (c) THP; (d) OTG; (e) AV; (f) PV.