

**Process Modeling and Convective Drying Optimization of Raspberry Pomace as a Fiber-Rich
Functional Ingredient: Effect on Techno-functional and bioactive Properties**

José P. Tejeda-Miramontes¹, Brenda C. Espinoza-Paredes¹, Ana Zatarain-Palffy¹, Tomás García-Cayuela¹, Viridiana Tejada-Ortigoza², Luis E. Garcia-Amezquita^{2*}

¹Tecnologico de Monterrey, Escuela de Ingenieria y Ciencias, Campus Guadalajara, Ave. General Ramón Corona 2514, Zapopan, 45138, México.

²Tecnologico de Monterrey, Escuela de Ingenieria y Ciencias, Campus Monterrey, Ave. Eugenio Garza Sada 2501, Monterrey, 64849, México.

*Corresponding author: garcia.amezquita@tec.mx (L.E.G.A.)

Table S1. Physicochemical characterization of raspberries (*Rubus idaeus*, Var. ‘Adelita’).

Parameter	Value
pH	3.50 ± 0.01
Soluble solids (°Bx)	11.2 ± 0.15
Titrateable acidity ^a	0.75 ± 0.13%
Maturity index ^b	14.05 ± 0.25
Color	
<i>L</i> *	39.12 ± 0.15
<i>a</i> *	34.59 ± 0.41
<i>b</i> *	13.74 ± 0.24

Mean values represent the average ± SD of triplicate experiments. Color parameters (*L**, *a**, *b**) follow the CIELAB color space, where *L** indicates lightness, *a** red/green axis, and *b** yellow/blue axis.

^a Titrateable acidity expressed as g of citric acid per 100 g of juice.

^b °Bx/acidity.

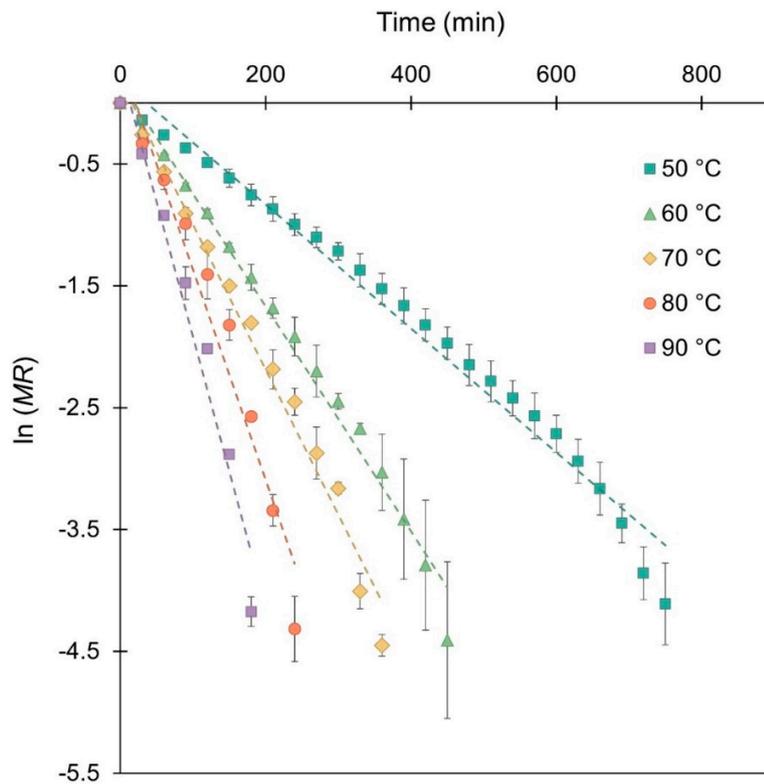


Figure S1. Linear regression of the natural logarithm of the moisture ratio ($\ln MR$) versus drying time for raspberry pomace at different drying temperatures (50, 60, 70, 80, and 90 °C).

^aThe slopes of these lines were used to calculate the effective moisture diffusivity (D_{eff}).

^bError bars represent the standard deviation of triplicate measurements.

Table S2. Linear regression equations derived from $\ln MR$ versus drying time for different drying temperatures.

Temperature (°C)	Equation
50	$Y = -0.0051x + 0.1821$
60	$Y = -0.0092x + 0.1736$
70	$Y = -0.0119x + 0.1916$
80	$Y = -0.0172x + 0.3548$
90	$Y = -0.0221x + 0.2881$

Linear regression equations obtained from the drying data of raspberry pomace in **Figure S1**. These equations were used to calculate the effective moisture diffusivity (D_{eff}) for each temperature.

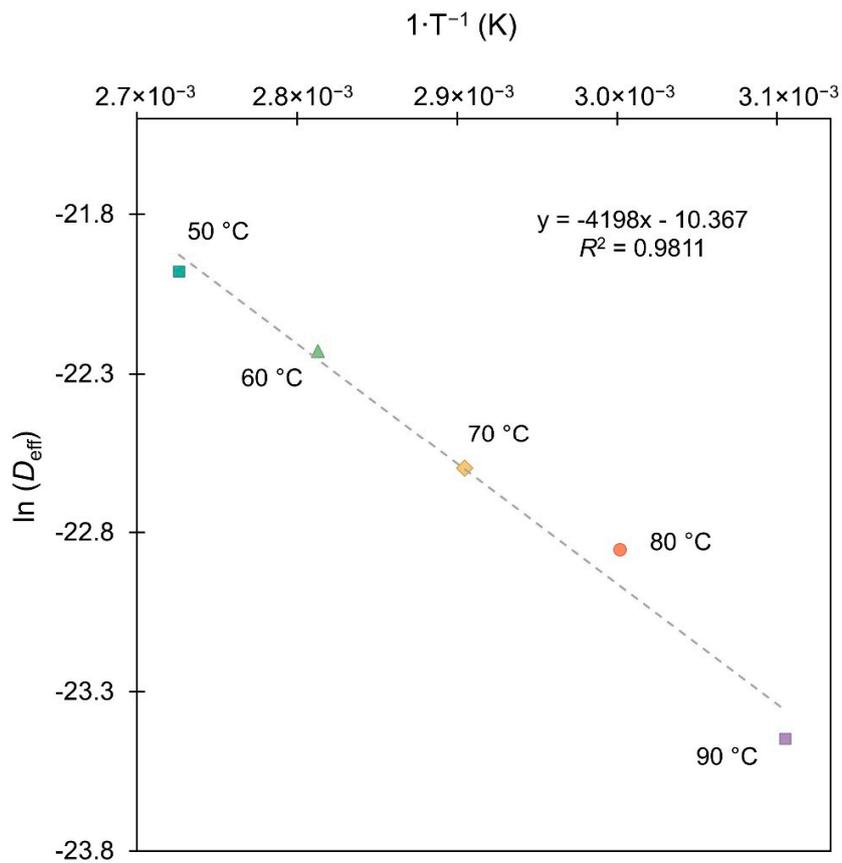


Figure S2. Plot of the natural logarithm of effective moisture diffusivity ($\ln D_{\text{eff}}$) versus the inverse of absolute temperature ($1 \cdot T^{-1}$) for raspberry pomace dried at different temperatures (50, 60, 70, 80, and 90 °C).

^aThe slope of the linear regression was used to calculate the activation energy (E_a) according to the Arrhenius equation.

^bThe regression equation and R^2 value are provided, showing the quality of the fit.