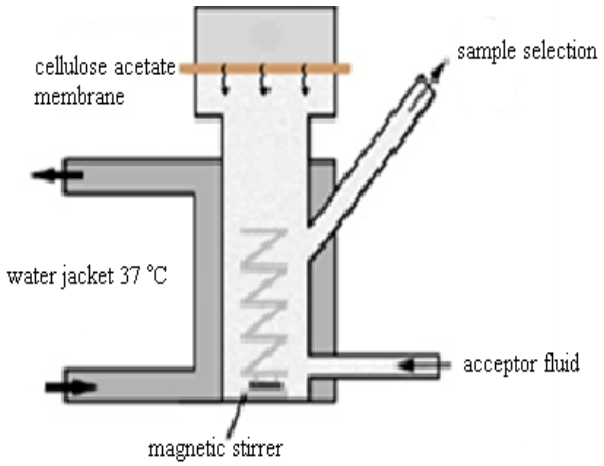


Figure S1. Schematic design of vertical Franz diffusion cell. Cell volume was equal to 12.65 mL and 4.35 mL for analysis of ZnO NPs and Xym, respectively.

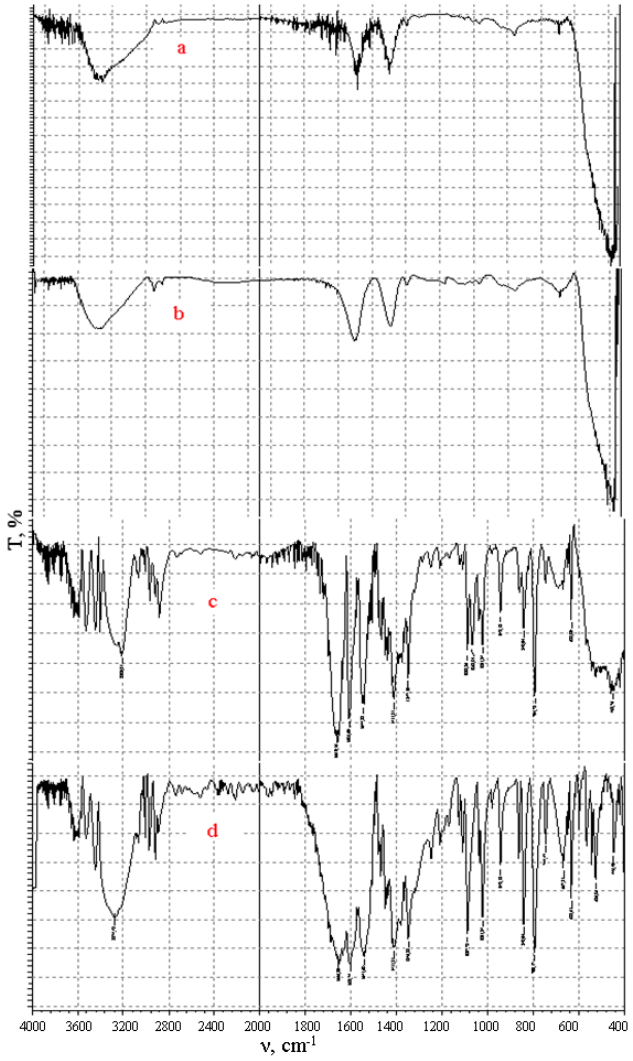


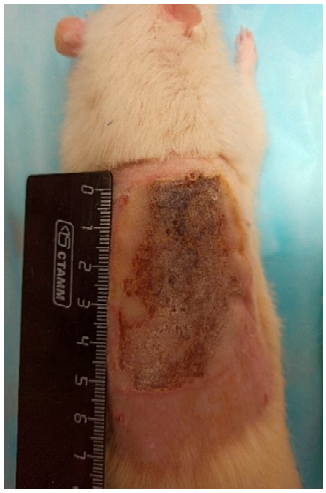
Figure S2. FTIR spectra of ZnO NPs (a), ZnO NPs-PEG (b), ZnO NPs-Xym (c), and xymedone (d)

Table S1. Data of powder XRD patterns of ZnO NPs, ZnO NPs-PEG, ZnO NPs-Xym, and xymedone.

Substance	**Peaks**	**2Θ,°** *	**Average size (D), nm** **
ZnO NPs	100	32.02	16.64
	002	34.48	
	101	36.76	
	102	47.68	
	110	56.41	
ZnO NPs-PEG	100	31.37	17.16
	002	33.87	
	101	35.31	
	102	46.23	
	110	56.42	
ZnO NPs-Xym	Xym_1	12.66	16.20
	Xym_2	14.74	
	Xym_3	19.78	
	Xym_4	23.68	
	Xym_5	29.21	
	100	31.68	
	002	34.28	
	101	36.08	
	Xym_6	37.94	
	Xym_7	44.16	
	102	47.48	
	110	56.32	
Xym	Xym_1	13.12	–
	Xym_2	14.84	
	Xym_3	19.86	
	Xym_4	24.08	
	Xym_5	30.76	
	Xym_6	37.41	
	Xym_7	44.26	

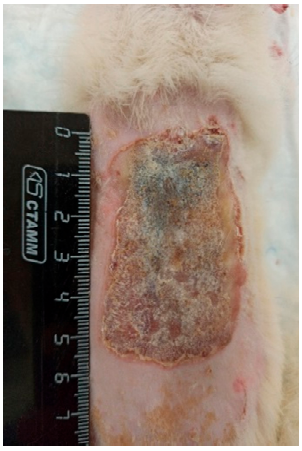
*2Θ – Bragg angle.
**Calculated by Sherrer's equation.

Burn (untreated) 0 Day



ZnO NPs gel 3 Day

ZnO NPs gel 7 Day



ZnO NPs gel 10 Day

ZnO NPs gel 10 Day

Figure S3. Photo-images of burn wound on rats under the treatment by ZnO NPs gel for 3,7,10 Days.

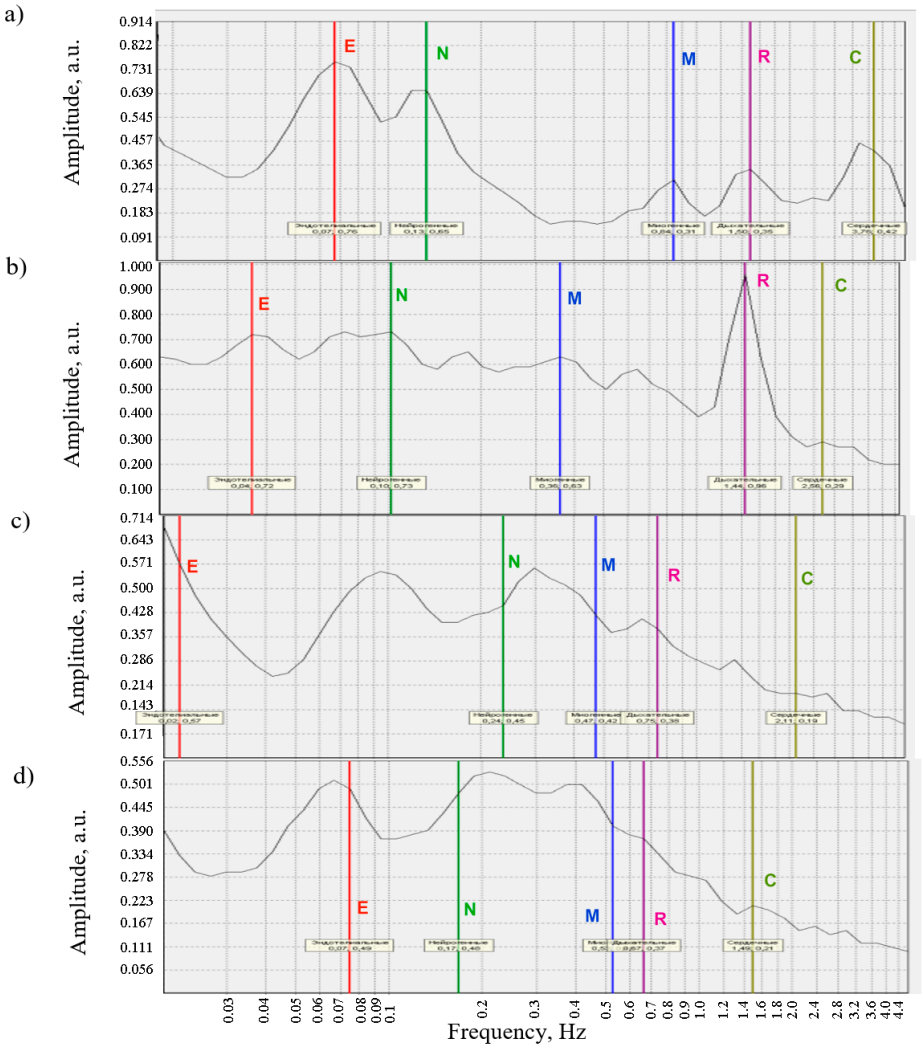


Figure S4. Wavelet-LDF spectra (Amplitude = f(Frequency)) obtained by laser Doppler flowmetry for intact rats (a), untreated burnt rats (day 0, b), burnt rats (day 10) under the treatment by ZnO NPs-Xym gel (c) and Methyluracyl® ointment (d). Neurogenic (N), myogenic (M), cardiac (C), endothelial (E), and respiratory (R) bands are presented on spectra.