Table (1) Analytical performance data for the determination of OMZ by the proposed method.

Parameter	Value
Wavelength (nm)	281/306 nm
Linearity range	20.0-700.0 **(ng/mL)**
Intercept (*a*)	-2.5646
Slope (*b*)	1.2704
Correlation coefficient (*r*)	0.9999
S.D. of residuals ($S_{y/x}$)	3.632
S.D. of intercept (S_a)	1.796
S.D. of slope (S_b)	0.005
Percentage relative standard deviation, % RSD	1.461
Percentage relative error, *%* Error	0.516
LOD	5.0 **(ng/mL)**
LOQ	14.0 **(ng/mL)**

$LOQ = 10\ S_a / b$ $LOD = 3.3\ S_a / b$

Where;

S_a = standard deviation of the intercept of the calibration curve.

b = slope of the calibration curve.

Table (2) Application of the proposed method for the determination of OMZ in raw material.

Parameters	Amount taken (ng/mL)	Amount found (ng/mL)	Percentage found*
	20.0	20.14	100.70
	50.0	50.86	101.72
	70.0	68.08	97.26
	90.0	89.78	99.76
	100.0	98.41	98.41
	300.0	301.54	100.51
	500.0	505.03	101.00
	700.0	696.12	99.45
Mean($\bar{X}$)			99.85
±SD			1.459
%RSD			1.461
% Error			0.516
N	8		
Official method [10]			
Mean±S.D	100.05±0.627		
N	3		
t-test	0.317 (2.262)		
F-value	5.415(19.35)		

N.B. *Mean of three determinations.

The values between parentheses are the tabulated t and F values at $P = 0.05$.

Table (3): Precision data for the determination of OMZ by the proposed method.

Parameters		90.0 ng/mL	300.0 ng/mL	500.0 ng/mL
Intra- day	Mean	99.11	101.14	100.20
	± SD	± 0.70	± 0.64	± 0.97
	% RSD	0.70	0.63	0.97
	% Error	0.41	0.37	0.56
Inter- day	Mean	100.20	100.65	100.56
	± SD	±1.05	±1.87	±2.26
	% RSD	1.04	1.86	2.25
	% Error	0.60	1.07	1.30

N. B. Each result is the average of three separate determinations

Table (4): Robustness evaluation of the proposed method.

Variation Volume of AgNPs (0.1 mL±0.02)	Recovery	% RSD
0.08 mL	100.72	1.67
0.1 mL	99.82	1.54
0.12 mL	99.27	1.27

Table (5): Effect of some related drugs on the fluorometric determination of OMZ (500 ng/mL).

Drug	Tolerance limit (µg/mL)
Xylometazoline hydrochloride	**10**
triamcinolone acetonide	**31**
cromolyn sodium	**9**

Table (6): Determination of OMZ in pharmaceutical preparations using the proposed method.

Parameters	Proposed method			Official method [10]		
	Amount taken (ng/mL)	Amount found (ng/mL)	Percentage found[a]	Amount taken (µg/mL)	Amount found (µg/mL)	Percentage found[a]
Oxymet ®drops OMZ (0.5 mg/mL)	100.0	101.00	101	60.0	60.56	100.93
	300.0	295.40	98.46	100.0	98.96	98.96
	500.0	503.30	100.66	140.0	140.51	100.36
Mean			100.04			100.08
± S.D.			1.38			1.01
% RSD			1.38			1.01
% Error			0.80			0.59
T	0.04 (2.776) *					
F	1.87 (19.00) *					
Oxymetazoline ®spray OMZ (0.5 mg/mL)	100.0	99.66	99.66	60.0	59.10	98.50
	300.0	304.96	101.65	100.0	101.69	101.69
	500.0	501.64	100.33	140.0	139.18	99.41
Mean			100.55			99.87
± S.D.			1.02			1.64
% RSD			1.01			1.64
% Error			0.58			0.95
t	0.61 (2.776) *					
F	2.59 (19.00) *					

N.B. [a] Mean of three determinations.

*The values between parentheses are the tabulated t and F values at $P = 0.05$.

Table (7): Content uniformity testing of OMZ in (Oxymet® nasal drops).

Drop no(test)	conc taken (ng/ml)	conc found (ng/ml)	A = (OMZ conc found per each drop / conc taken) x100
1	500	489.5	97.90%
2	500	480	96.00%
3	500	504	100.80%
4	500	499	99.80%
5	500	497	99.40%
6	500	510	102.00%
7	500	510	102.00%
8	500	490	98.00%
9	500	508	101.60%
10	500	480	96.00%
total=993.5%			
x`(mean)=99.35 %			
S (sample standard deviation) =2.304%			
k (Acceptability constant) =2.4			
Ks = 5.5296%			
M (Reference value) = 99.35%			
AV (acceptance value) = 5.5296%			

Table (8): Application of the proposed spectrofluorimetric method for determination of OMZ in aqueous humor.

Parameter	Proposed method		
	Amount taken (ng/mL)	**Amount found (ng/mL)**	**Percentage found**
Aqueous humor	20.0	19.96	99.8
	40.0	40.22	100.55
	50.0	50.39	100.78
	80.0	78.64	98.3
	100.0	100.82	100.82
Mean			100.05
± S.D.			1.06
% RSD			1.06
% Error			0.47