Electronic Supplementary Material (ESI) for Analytical Methods.

Table S1. Effect of different membrane composition and surface modification on the performance of the prepared sensors.

Sensor no.	Composition							Performance[1]		
	PVC %w/w	Plasticizer type	Plasticizer %w/w	Ion-exchanger[2]	Thickness µm	Ionophore	Surface Modification	Linear range (mol L^{-1})	Slope	r
1	31.67	TCP	66.67	TPB	100	-	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	26.32	0.9948
2	31.67	TCP	66.67	ARK	100	-	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	21.81	0.9845
3	31.67	TCP	66.67	PT	100	-	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	22.15	0.9735
4	31.67	TCP	66.67	PM	100	-	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	24.66	0.9871
5	31.67	DBP	66.67	TPB	100	-	PANI	$1.0\times10^{-2} – 3.7\times10^{-4}$	24.45	0.9943
6	31.67	NPPE	66.67	TPB	100	-	PANI	$1.0\times10^{-2} – 4.1\times10^{-5}$	26.50	0.9926
7	31.67	NPOE	66.67	TPB	100	-	PANI	$1.0\times10^{-2} – 4.1\times10^{-5}$	26.46	0.9951
8	31.67	DOP	66.67	TPB	100	-	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	22.80	0.9713
9	31.67	DBS	66.67	TPB	100	-	PANI	$1.0\times10^{-2} – 1.1\times10^{-3}$	11.08	0.9792
10	19.67	NPPE	78.67	TPB	100	-	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	26.47	0.9333
11	19.67	NPOE	78.67	TPB	100	-	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	26.93	0.9836
12	31.67	NPOE	66.67	TPB	80	-	PANI	$1.0\times10^{-2} – 4.1\times10^{-5}$	22.75	0.9792
13	31.67	NPOE	66.67	TPB	120	-	PANI	$1.0\times10^{-2} – 4.1\times10^{-5}$	22.27	0.9766
14	31.67	NPOE	66.67	TPB	100	CX-8[3]	PANI	$1.0\times10^{-2} – 4.5\times10^{-6}$	26.16	0.9940
15	31.67	NPOE	66.67	TPB	100	β-CD[3]	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	23.49	0.9894
16	31.67	NPOE	66.67	TPB	100	HP- β-CD[3]	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	26.28	0.9967
17	31.67	NPOE	66.67	TPB	100	CM- β-CD[3]	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	20.10	0.9807
18	31.67	NPOE	66.67	TPB	100	CX-8[4]	PANI	$1.0\times10^{-2} – 4.5\times10^{-6}$	26.53	0.9978
19	31.67	NPOE	66.67	TPB	100	β-CD[4]	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	24.16	0.9950
20	31.67	NPOE	66.67	TPB	100	HP- β-CD[4]	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	26.42	0.9969

21	31.67	NPOE	66.67	TPB	100	CM- β-CD[4]	PANI	$1.0\times10^{-2} – 1.2\times10^{-4}$	23.26	0.9887
22	31.67	NPOE	66.67	TPB	100	CX-8[4]	c-MWCNTs	$1.0\times10^{-2} – 4.5\times10^{-6}$	25.73	0.9977
23	31.67	NPOE	66.67	TPB	100	CX-8[4]	PANI/c-MWCNTs	$1.0\times10^{-2} – 1.5\times10^{-6}$	29.14	0.9990

[1] Average of three determinations.
[2] Ion-exchanger was used by 1.66 %w/w for all sensors.
[3] Ionophore : ion-exchanger ratio 1:1.
[4] Ionophore : ion-exchanger ratio 2:1.

Table S2: Potentiometric selectivity coefficients $K_{GEF,I}^{Pot}$ of the optimized sensor for different interfering ions.

Interfering ion	Selectivity coefficient* $K_{GEF,I}^{Pot}$
Na^{+}	1.2×10^{-2}
K^{+}	1.4×10^{-3}
Ca^{++}	1.5×10^{-3}
Ni^{++}	1.5×10^{-3}
Cd^{++}	1.7×10^{-3}
Co^{++}	1.4×10^{-3}
Mn^{++}	6.8×10^{-3}
Mg^{++}	2.8×10^{-3}
Cu^{++}	7.5×10^{-3}
Pb^{++}	3.0×10^{-3}
NH_4^{+}	3.6×10^{-3}
Fe^{+++}	5.6×10^{-3}

* Results are average of three successive measurements.

Figure S1: Chemical structure of gefitinib

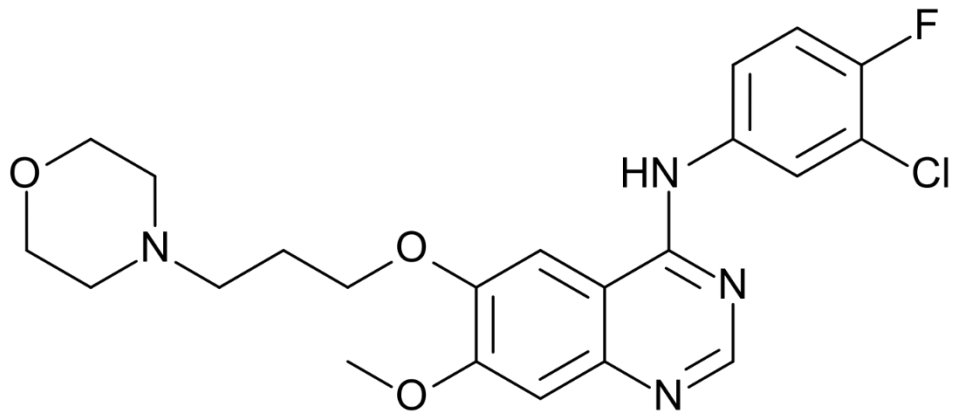

Figure S2: Calibration curve for GEF using the optimized sensor (Sensor 23):