Electronic Supplementary Material (ESI) for New Journal of Chemistry.

SUPPORTING INFORMATION

Antidiabetic and antioxidant activities: Is there any link between them?

Samson O. FAMUYIWA[a], Kayode SANUSI[a,*] , Kolade O. FALOYE[a], Yusuf YILMAZ[b], Ümit CEYLAN[c]

[a]*Department of Chemistry, Obafemi Awolowo University, Ile-Ife, Nigeria*

[b]*NT Vocational School, Gaziantep University, 27310 Gaziantep, Turkey*

[c]*Department of Medical Services and Techniques, Vocational High School Health Services, Giresun University, 28100 Giresun, Turkey*

*Corresponding Authors' e-mail: sosanusi@oauife.edu.ng

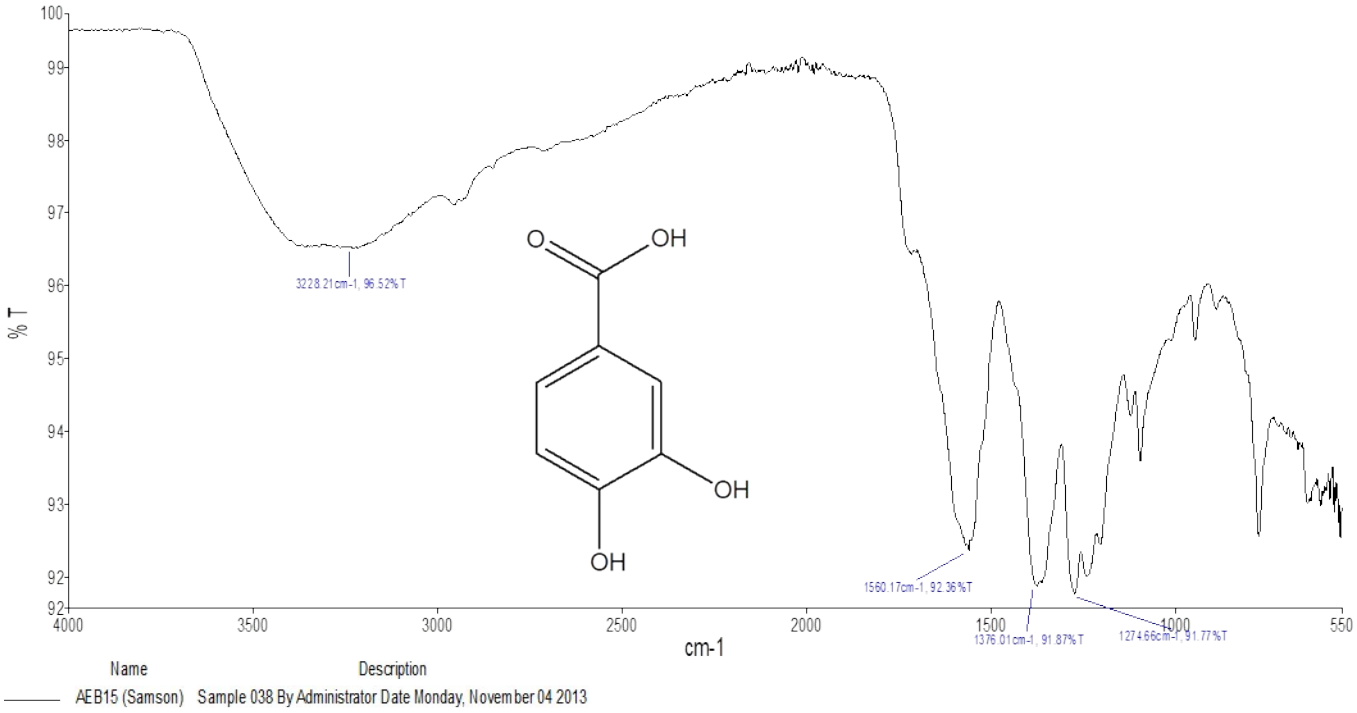

Figure S1: Experimental IR spectrum of the isolated PcA

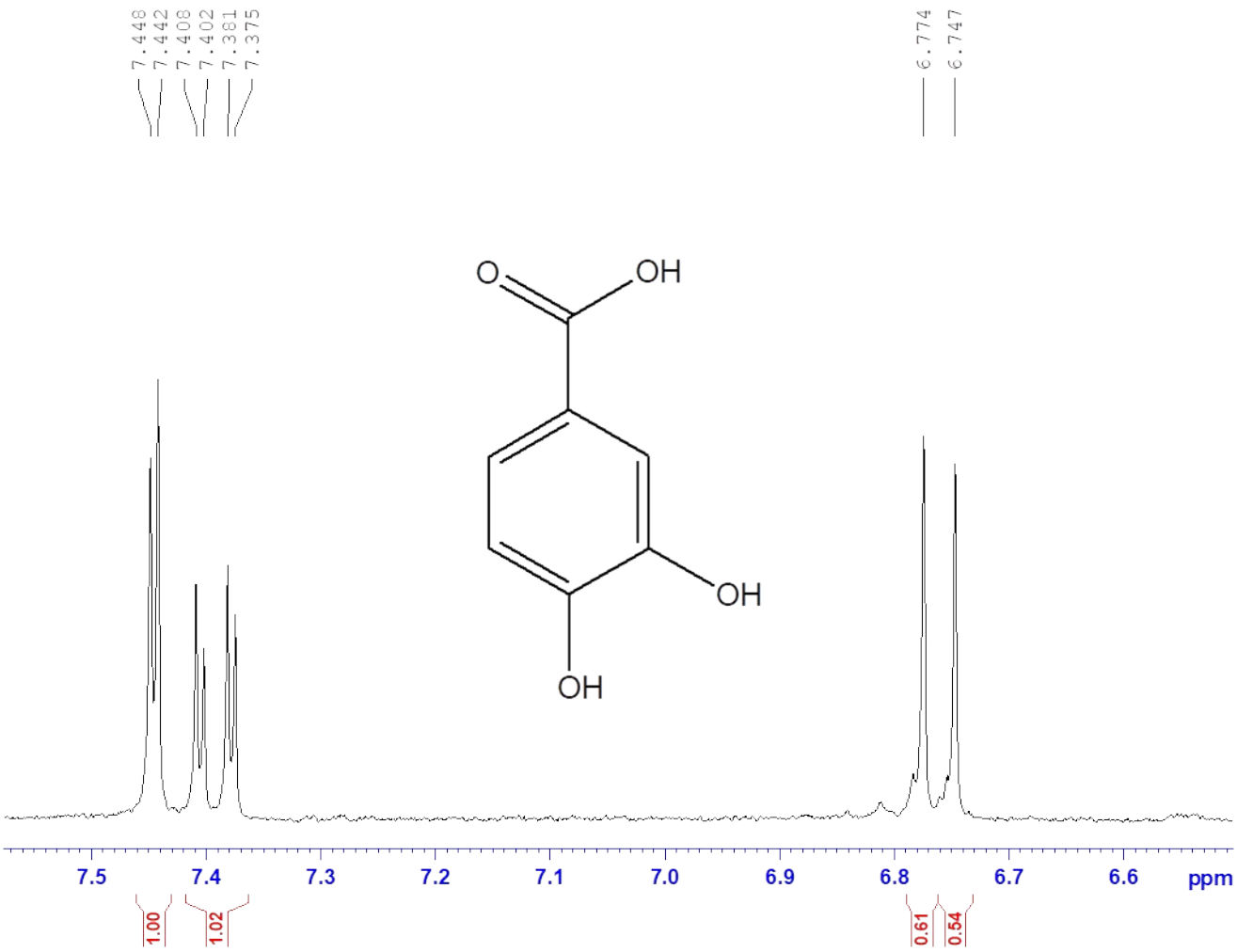

Figure S2: Experimental ^{1}H NMR spectrum of the isolated PcA

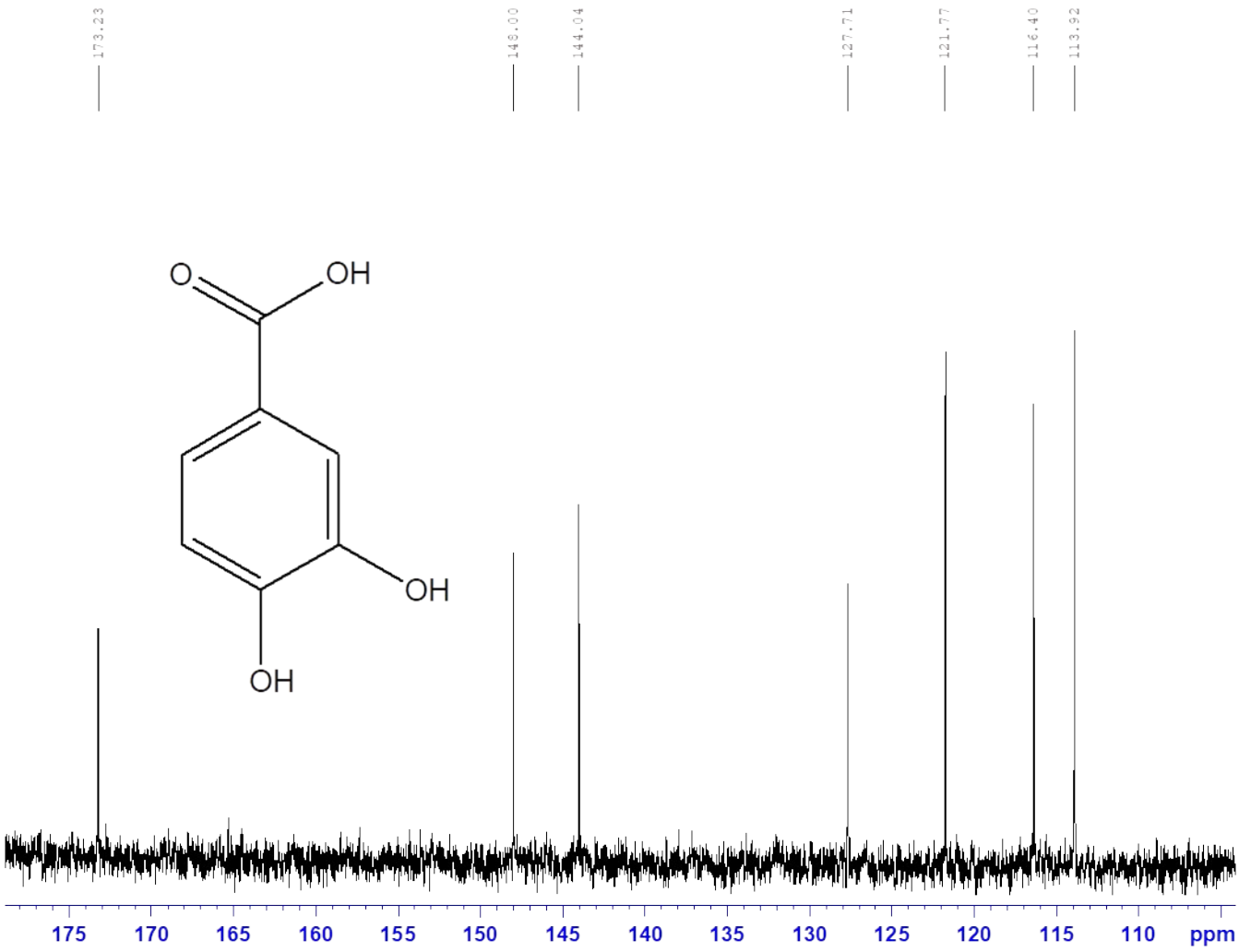

Figure S3: Experimental ^{13}C NMR spectrum of the isolated PcA

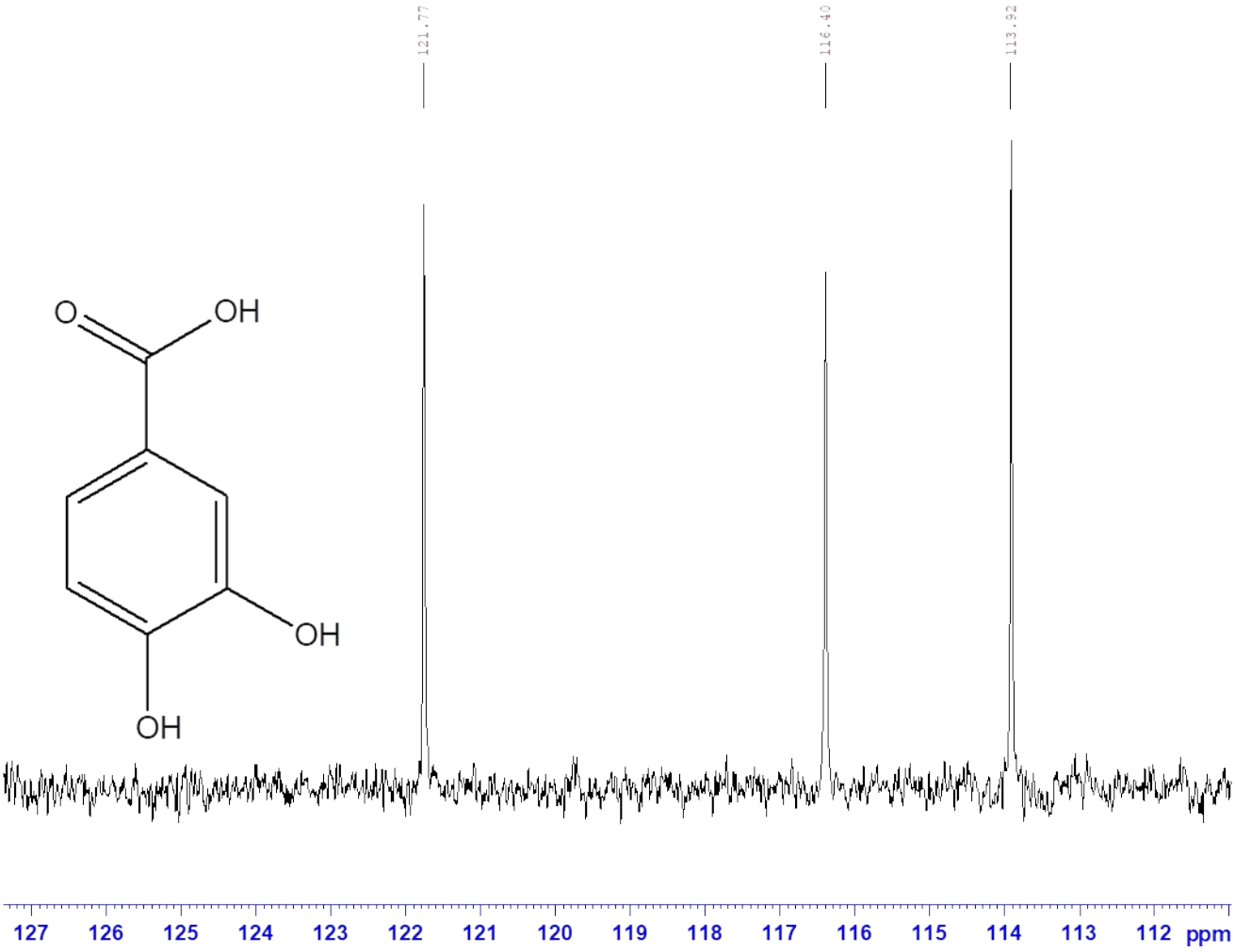

Figure S4: DEPT-135 NMR spectrum of the isolated PcA

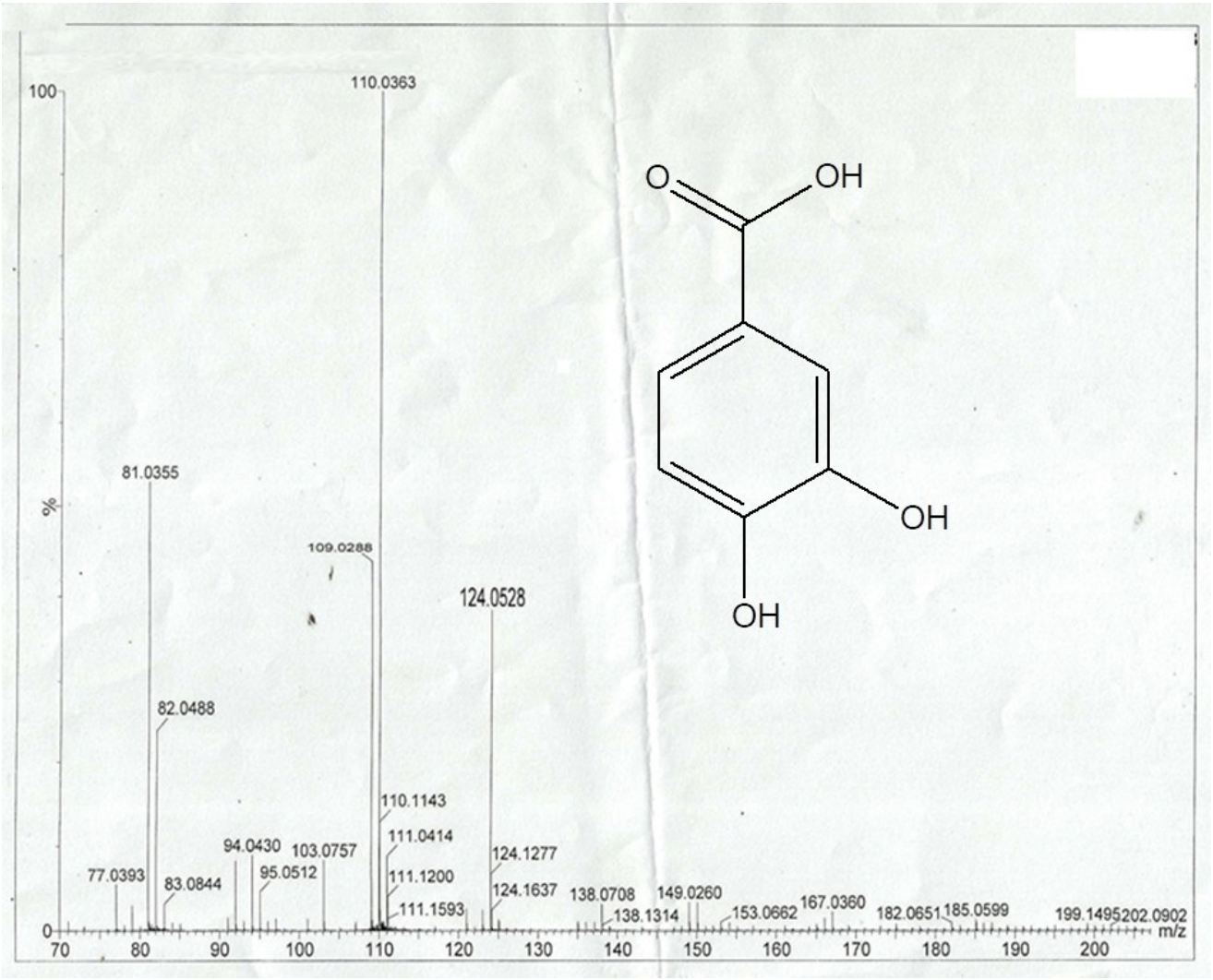

Figure S5: Mass spectrum of the isolated PcA

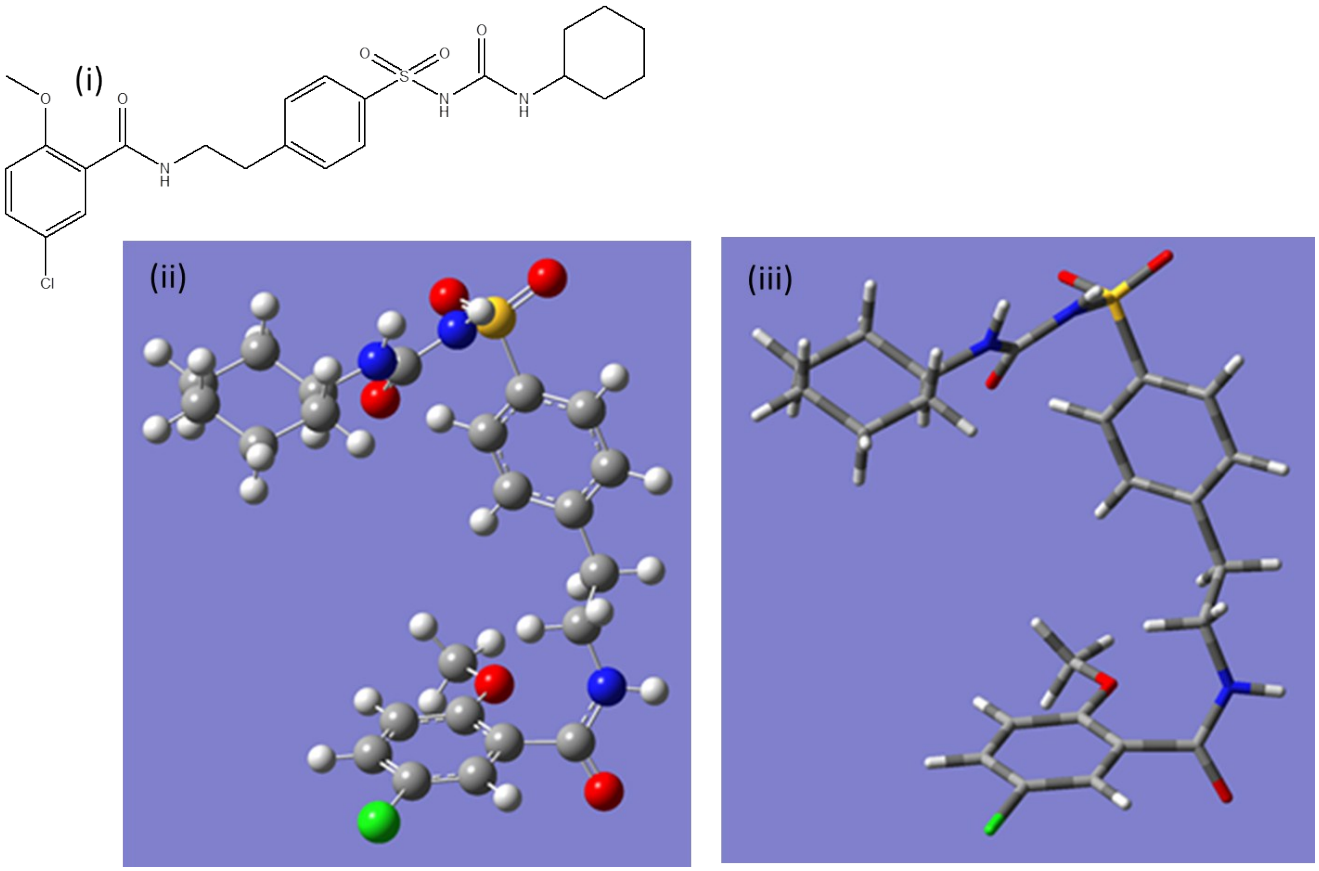

Figure S6: Glibenclamide structures (i) 2-D structural formula (ii) 3-D optimized structure in ball & bond type view and (iii) 3-D optimized structure in tube view. Images (ii) & (iii) attest to the non-planar structure of GcD.

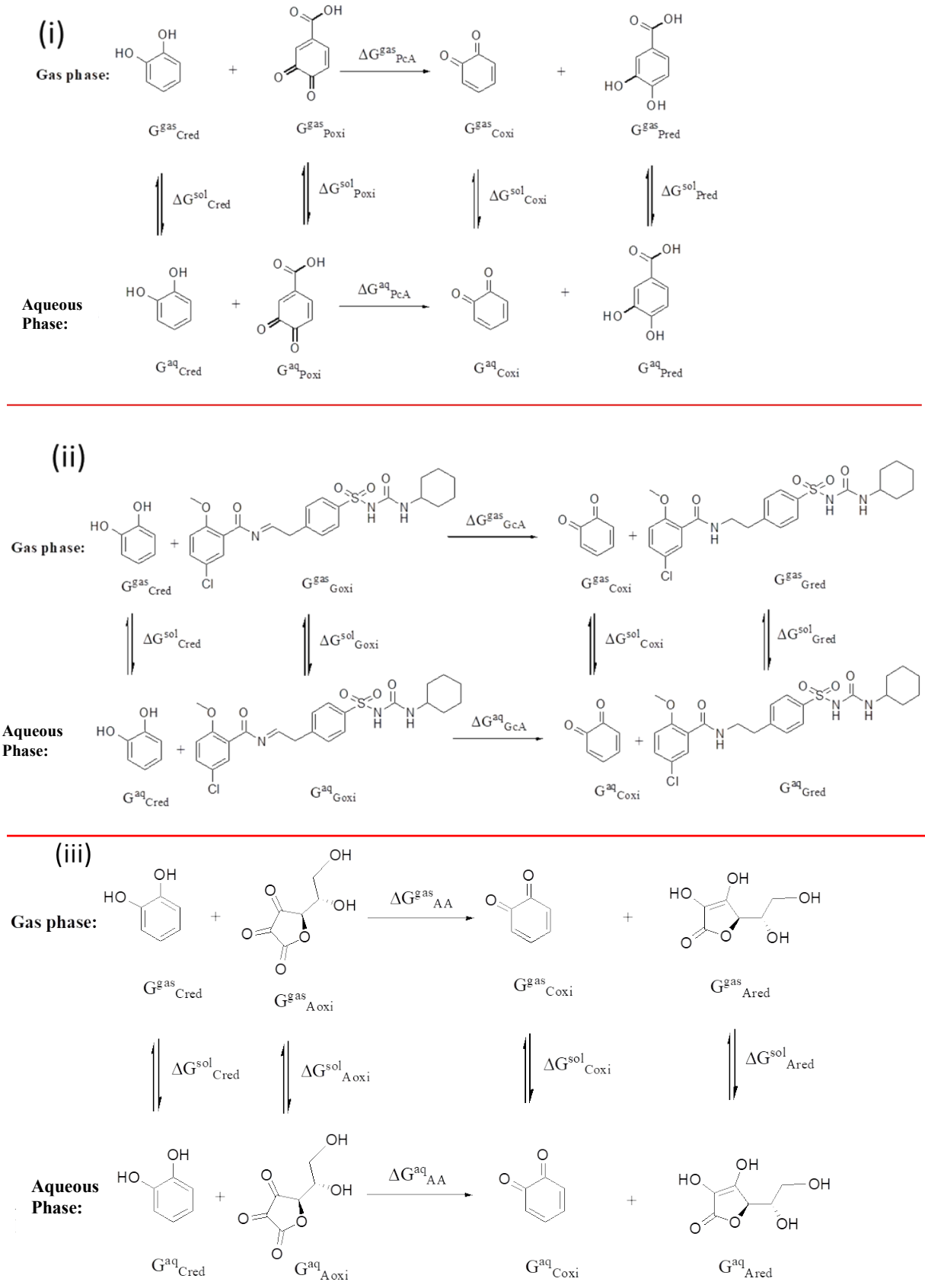

Figure S7: Isodesmic reaction cycles employed for the calculation of the solution and gas phase free-energy changes. (i) For the protocatechuic acid, (ii) for the glibenclamide and (iii) for the ascorbic acid.

Table S1: Antidiabetic activity of PcA on streptozotocin-induced diabetic rats

Dose of compound (mg/Kg)	Blood glucose level as percentage of To (reduction in blood glucose relative to negative control at Tt)				
	Day 1	**Day 4**	**Day 7**	**Day 10**	**Day 14**
Negative control	100	110.83 ± 2.45	107.04 ± 0.03	106.21 ± 1.32	102 .23 ± 2.12
PcA (20)	100	20.33 ± 2.68 (81.7)	16.74 ± 1.57 (84.4)	15.21 ± 1.90 (85.7)	12.99 ± 2.34 (87.3)
GcD (5)	100	17.62 ± 2.14 (84.1)	15.97 ± 1.48 (85.1)	14.68 ± 1.44 (86.2)	12.55 ± 1.34 (87.7)
Normal rats (positive control)	100	12.14 ± 0.98 (89.2)	11.56 ± 1.21 (89.3)	10.98 ± 0.24 (89.7)	10.21 ± 2.11 (90.0)

Data show the mean ± SEM blood glucose levels at the different time interval expressed as percentages of levels at 0 h (T_o), n=6. Values in parentheses represent the percentage reductions in blood glucose levels relative to negative control for each time point. Values with different superscripts within columns are significantly different ($p < 0.05$, one way analysis of variance followed by Student-Newman-Keuls test). GcD: positive control, PcA: test compound.