Table S1: A list of key constituents isolated from various parts of *Justicia adhatoda* and their pharmacological activities.

Serial No.	Plants parts	Compound Names	Compound Types	Activity	References
1	Root, Leaf	Vasicinone	Alkaloids	Bronchitis, Allergy, Anti-bacterial Tuberculosis, Asthma, Antioxidant, Antidiabetic	[5,47,50,51,69,70]
2	Leaf	Vasicine	Alkaloids	Anti-cancer, Antimalarial, Antioxidant, Antidiabetic, Insecticidal, Muscle Stimulant, Anti-bacterial	[5,47,50,51,67,69,70]
3	Leaf	Adhatonine	Alkaloids	Anti-tubular, Anti-bacterial	[5,52,68]
4	Leaf	Vasicolinone	Alkaloids	Anti-tubular	[20,53]
5	Root, Leaf	Adhavasinone	Alkaloids	Anti-inflammatory	[20,54]
6	Root, Leaf	Vasicinolone	Alkaloids	Anti-tubular, Anti-inflammatory	[20,11,55]
7	Root, Leaf	Anisotine	Alkaloids	Anti-tubular, Anti-allergic	[56,68]
8	Root, Leaf	7- Hydroxyvasicine	Alkaloids	Anti-bacterial, Bronchitis,	[54,56]
9	Root, Leaf	Vasicirol	Alkaloids	Antimicrobial	[20,50]
10	Root, Leaf	2- Acetylbenzylamine	Alkaloids	Anti-inflammation, Anti-bacterial	[57,58]
11	Flower	Astragalin	Flavanoids	Antioxidant, Anti-bacterial, Anti-cancer	[47,50,55]
12	Leaf, Flower	Luteolin	Flavanoids	Antimicrobial, Antioxidant, Anti-inflammatory	[47,59]
13	Leaf, Flower	Vitexin	Flavanoids	Cardioprotective, Anti-inflammatory	[47,50]
14	Leaf, Flower	Kaempferol	Flavanoids	Antiviral, Anti-bacterial, Anti-cancer	[5,47,58,59]
15	Leaf	Anthocyanin	Flavanoids	Anti-inflammatory	[60]

16	Leaf	Isovitexin	Flavanoids	Antimicrobial, Antioxidant	[47]
17	Leaf, Flower	Quercetin	Flavanoids	Antioxidant, Antiviral, Anti-bacterial	[47,50,59]
18	Shoot, Flower, leaf	Palmitic acid	Essential oils	Antimicrobial, Anti-inflammatory	[5,61]
19	Stem, Leaf & Root	Alpha-phellandrene	Essential oils	Antioxidant, Insecticidal, Antimicrobial	
20	Leaf	Octanal	Essential oils	Antimicrobial	
21	Leaf	Undecanal	Essential oils	Anti-bacterial	
22	Leaf	Dodecane	Essential oils	Antimicrobial	
23	Leaf	Pentadecanol	Essential oils	Anti-bacterial	
24	Leaf	Eicosane	Essential oils	Antioxidant	
25	Leaf	Tricosane	Essential oils	Insecticidal, Anti-bacterial	
26	Leaf	Nonacosane	Essential oils	Anti-bacterial	
27	Leaf	Fenretinide	Essential oils	Anti-cancer, Antioxidant	
28	Leaf	Alpha- curcumene	Essential oils	Antioxidant, Anti-inflammatory, Anti-bacterial	[62]
29	Leaf	Alpha-citral	Essential oils	Anti-bacterial	
30	Leaf	Sabinene	Essential oils	Antioxidant, Antimicrobial	
31	Leaf	Alpha-pinene	Essential oils	Antimicrobial, Bronchitis	
32	Leaf	Amrinone	Essential oils	Cardioprotective	[63]
33	Flower	Dibutyl phthalate	Fatty acids	Antimicrobial	[55]
34	Flower	Octadecadienoic acid	Fatty acids	Anti-inflammatory, Cardioprotective	
35	Flower & Shoot	Tetradecanoic acid	Fatty acids	Antimicrobial	
36	Shoot	Heptadecanoic acid	Fatty acids	Cardioprotective, Antimicrobial	

37	Flower & Leaf	Hexadecanoic acid, Methyl ester	Fatty acids	Antioxidant, Antimicrobial	
38	Flower & Leaf	9,12,15- Octadecatrienoic acid	Fatty acids ester	Anti-inflammatory, Cardioprotective	
39	Seed	Behenic acid	Fatty acids	Antimicrobial	[5,47,20,64]
40	Seed	Cerotic Acid	Fatty acids	Antioxidant	
41	Seed	Arachidic acid	Fatty acids	Antioxidant	
42	Seed & leaf	Linoleic acid	Fatty acids	Cardioprotective, Anti-inflammatory	
43	Shoot	Cholestane 3-beta, 5-beta diol	Steroids	Anti-inflammatory, Antioxidant	[55]
44	Shoot	5-Cholestene-3-ol, 24 methyl	Steroids	Cardioprotective, Antimicrobial	
45	Leaf	Gamma-sitosterol	Steroids	Anti-inflammatory, Antioxidant	
46	Leaf	Stigmasta-3, 5-dien-7-one	Steroids	Anti-cancer, Antioxidant	
47	Root	Daucosterol	Steroids	Antidiabetic, Antioxidant, Anti-inflammatory	[47,59]
48	Flower, Leaf	Beta-sitosterol	Steroids	Anti-cancer, Anti-inflammatory	
49	Flower	Hydroquinone	Phenols	Antioxidant, Antimicrobial	[55,64]
50	Leaf	Vitamin E	Phenols	Cardioprotective, Anti-inflammatory	
51	Flower	Butylated hydroxytoluene	Phenols	Antimicrobial, Antioxidant	
52	Leaf	2,6,10,14,18,22-Tetracosahexaene	Phenols	Antioxidant, Anti-inflammatory	[66]
53	Leaf	2,6,10,15,19,23-Hemamethyl	Phenols	Antioxidant, Anti-inflammatory, Antimicrobial	
54	Leaf	Syringic acid	Phenolic acid	Antioxidant, Anti-inflammatory, Antimicrobial	[5,47,59]

55	Leaf	P-coumaric acid	Phenolic acid	Antioxidant, Anti-inflammatory, Anti-cancer Antimicrobial, Anti-cancer	
56	Flower	Tannic Acid	Phenol ester	Anti-cancer, Antimicrobial, Antioxidant	[59]
57	Leaf	Carbamic acid	Organic acid	Antimicrobial	[65]
58	Leaf	Ascorbic acid	Furanone	Antioxidant, Anti-inflammatory, Anti-bacterial	[60]
59	Leaf	Metahne-D3, Nitro	Organic nitro	Antimicrobial, Anti-bacterial	[65]
60	Leaf	Acetonitrile D3	Organic nitro	Antimicrobial	