Table S2. Antimicrobial activity of extracts and isolates from the Dicotyledons from the mangroves, tidal rivers, and the seashores of Asia and the Pacific

FAMILY Genus, species (synonym)	Extract			Antimicrobial principle(s)
	Antibacterial	Antifungal	Antiviral	
ACANTHACEAE ***Acanthus ebracteatus* Vahl**	•	•	•	*Antibacterial:* 3,5-Dimethoxy-4-hydroxy methyl benzoic acid (**74**), (*Z*)-4-coumaric acid 4-*O*-β-*D*-glucopyranoside (**75**), 6-hydroxybenzoxazolinone (**76**) [241].
AEGICERATACEAE ***Aegiceras corniculatum* (L.) Blanco**	•			*Antibacterial:* Acornine 2 (**63**) *C. albicans*, *T. mentagrophytes*, *T. rubrum*, *S. cerevisae*, *T. clypeatus* at 50, 50, 100, 9.3, and 150 μg/disc, respectively [212].
AIZOACEAE *Sesuvium portulacastrum* (L.) L.	•	•	•	
ANNONACEAE *Annona palustris* L.	•	•		*Antimicrobial:* Kauranes [26]
APOCYNACEAE *Cerbera manghas* L.	•	•		
Cerbera odollam Gaertn.	•	•		
ASCLEPIADACEAE *Hoya parasitica* (Roxb.) Wall. ex Wight	•			
ASTERACEAE *Pluchea indica* (L.) Less.	•			
AVICENNIACEAE ***Avicennia alba* Bl.**	•	•		
***Avicennia eucalyptifolia* (Valeton) Zipp. ex Moldenke**	•			
***Avicennia lanata* Ridl.**	•			*Antibacterial:* Rhizophorin B, *B. subtilis* at 500 μg/mL [246]. *Antifungal:* Excoecarin A (**77**), *ent*-16-hydrozy-3-oxo-13-*epi*-manoyl-oxide (**78**), *ent*-15-hydroxy-labda-8(17), 13*E*-dien-3-one (**79**), *R. orizae* and *A. niger* at 500 μg/mL [246].
***Avicennia officinalis* L.**	•	•		*Antibacterial:* Decaffeoyl acteoside (**80**) and verbascoside (**81**), *E. faecalis* and *S. sonnei* MIC: 31.2 μg/mL [247]. *Antiviral*: Verbascoside (**81**), RSV, EC_{50}: 0.8 μg/mL [248].
BIGNONIACEAE ***Dolichandrone spathacea* (Burm. f.) Bedd.**				

BORAGINACEAE *Cordia dichotoma* G. Forst.	•	•		
CASUARINACEAE *Casuarina equisetifolia* L.	•	•		
CHENOPODIACEAE *Salicornia brachiata* Miq.	•	•	•	
Suaeda maritima (L.) Dumort.	•	•		
COMBRETACEAE *Combretum quadrangulare* Kurz	•	•	•	*Antibacterial:* Corilagin (**38**), *S. aureus*, IZD: 12 mm (100 μg/6 mm disc) [81], *S. aureus*, *B. subtilis*, MIC : 50 and 400 μg/mL, respectively [126]. *Antifungal:* Corilagin (**38**), *C. albicans*, IZD: 12 mm (100 μg/6 mm disc) [81].
Lumnitzera racemosa Willd.	•			*Antiviral:* Corilagin (**38**), CV A16 and EV-71, IC_{50} : 32.3 and 5.6 μg/mL, respectively [127]. Corilagin (**38**), IAV, IC_{50}: 31.2 μg/mL [128].
Terminalia catappa L.	•	•	•	
CONVOLVULACEAE *Ipomoea pes-caprae* (L.) R. Br.	•	•		
CLUSIACEAE *Calophyllum inophyllum* L.				*Antibacterial:* Caloxanthone A, calophynic acid, brasiliensic acid, I nophylloidic acid, calaustralin, calophyllolide, inophyllum C, and inophyllum E (20 μg/disc) *S. aureus*, IZD: 9, 10, 11, 9, 11, 16, 10, and 13 mm, respectively [60]. *Antiviral:* Inophyllum B (**15**), inophyllum B acetate (**16**), and inophyllum P (**17**), reverse transcriptase IC_{50}: 0.03, 0.7, and 0.1 μM, respectively. Inophyllum B and P, HIV-1, IC_{50}: 1.4 and 1.6 μM, respectively [61].
EBENACEAE ***Diospyros littorea* (R. Br.) Kosterm.**	•			
EUPHORBIACEAE ***Excoecaria agallocha* L.**	•	•	•	*Antiviral:* 12-Deoxyphorbol 13-(3*E*,5*E*-decadienoate) (**18**), HIV-1, IC_{50}: 6 nM [69]. *Antiviral:* 5*β*-carboxymethyl-3*α*-hydroxy-2*β*-hydroxymethyl-1-methylpyrrolidine (**19**), HIV-1, 10^{-5} M by 22.4% [70].

Suregada glomerulata (Bl.) Baill.	•	•	•	*Antibacterial:* Bondenolide (**23**) (1 mg/mL/agar well), *P. aeruginosa* 7 mm. Neocaesalpin P (**24**), *S. aureus*, *S. agalactiae*, and *P.aeruginosa* MIC: 16, 16, and 32 *μg/mL, respectively [96].* *Antifungal:* Bondenolide (**23**) (200 μg/mL) *N. oryzae, S. atra*, *C. lunata*, *D. rostrata*, *A. niger*, *P. oustreatus*, *A. boydii*, *M. canis*, and *E. flocossum* [96].
FABACEAE *Caesalpinia bonduc* (L.) Roxb.	•			
Canavalia cathartica Thouars	•			
Cathormion umbellatum (Vahl) Kosterm.	•	•	•	
***Cynometra iripa* Kostel**.	•		•	
Cynometra ramiflora Miq.				*Antibacterial and antifungal:* Mucronatol, *E. coli*, *T. mentagrophytes* MIC: 50 and 25μg/mL, respectively. Clausequinone *S. aureus*, *B. subtili* , *E. coli*, *A. niger*, and *T. mentagrophytes* MIC: 6, 3, 6, 50, 100, and 25 μg/mL, respectively. Vestitol, *B. subtilis*, *E. coli*, and *T. mentagrophytes* MIC: 50, 50 and 25 μg/mL, respectively [106].
Dalbergia candenatensis (Dennst.) Prain	•	•	•	
Derris scandens (Aubl.) Pittier	•	•		*Antibacterial:* Lupalbigenin (**25**), *S. aureus* and MRSA, MIC: 2 and 4 μg/mL, respectively. Derrisisoflavone A (**26**) , *S. aureus* and MRSA, MIC: 16 and 4 μg/mL, respectively. Santal (**27**), MRSA, MIC: 2 μg/mL. Scandenin A (**28**) (50 μL of 1 mg/mL/disc) *E. coli*, 9 mm [108]. Dalpanitin (**29**) and vicenin 3 (**30**), *S. aureus*, MIC: 23 μg/mL [109,110] *Antifungal:* Derrisisoflavone C (**31**), 5,7,4′-trihydroxy-6,8-diprenylisoflavone (**32**) and lupalbigenin (**25**), 250 μg/mL *T. mentagrophytes* [107].
Derris trifoliata Lour.	•			*Antibacterial:* Lupinifolin (**35**), *S. aureus*, *B. subtilis, E. coli,* and *P. aeruginosa* 0.5, 0.5, 10, and 0.5 μg/TLC. *S. aureus*, MIC: 8 μg/mL [115,116]. *Antifungal:* Lupinifolin (**35**), *C. albicans*, 0.01 μg/TLC [116]. *Antiviral:* Rotenone (**34**) HSV-1 and HSV-2; 15.4 and 24.4 % at 50 μg/mL, respectively [117]. Deguelin (**33**), HCMV; IC_{50}: 55.8 nM [117].
Inocarpus fagifer (Parkinson) Fosb	•	•	•	
Pongamia pinnata (L.) Pierre	•			

Sindora siamensis Teysm. ex Miq.	•	•	•	
GOODENIACEAE				
Scaevola taccada (Gaertn.) Roxb.				*Antifungal:* Scataccanol (**87**), *P. insidiosum*, MIC: 5 μg/mL. 4-Formylsyringol (**88**), *P. insidiosum* MIC: 10 μg/mL [261].
HERNANDIACEAE				
Hernandia nymphaeifolia (C. Presl) Kubitzki				*Antiviral:* Deoxypodophyllotoxin (**3**), HSV-1, IC_{50}: 0.004 μM [25].
ICACINACEAE				
Merrilliodendron megacarpum Sleumer				*Antifungal:* Camptothecin (**66**), *A. alternata*, *E. nigrum*, *P. guepinii*, *Drechslera sp*., and *Fusarium avenaceum*, EC_{50} <25, <10, 10, <10, and 30 μg/mL, respectively [214]. *Antiviral:* Camptothecin (**66**), VV, 40 μM [215], EV 71, 10 μM [216]. 10 μg/mL, IVA [217], SIM [218], HIV [219].
LAURACEAE				
Cassytha filiformis L.	•	•		*Antifungal: Dicentrine* (**2**),*C. clodosporioides*, 6 μg/spot [24].
LECYTHIDACEAE	•	•		
Barringtonia acutangula (L.) Gaertn.				
Barringtonia asiatica (L.) Kurz				*Antibacterial:* Germanicol caffeoyl ester (**61**), camelliagenone (**62**), germanicol (**63**), *P. aeruginosa* [207] *Antifungal:* Germanicol caffeoyl ester (**61**), camelliagenone (**62**), germanicol (**63**), *C. albicans* [207].
	•		•	
Barringtonia racemosa (L.) Spreng				*Antibacterial:* Nasimalun A (**64**) (200 μg/disc) *S. aureus*, *B. subtilis*, *S. flexneri*, *S. paratyphi* B, *V. mimicus*, IZD: 9, 10, 7, 10, and 11 mm, respectively [204]. Lupeol (**40**), *E. faecalis,* MIC_{50} of 62.5 μg/mL [208].
LORANTHACEAE				
Dendrophthoe pentandra (L.) Miq.	•			*Antibacterial:*Flavonol glycosides [186].
	•			
Macrosolen cochinchinensis (Lour.) Tiegh.				
Viscum orientale Willd.	•			
LYTHRACEAE				

***Pemphis acidula* J.R. & G. Forst.**	•	•		
MALVACEAE *Hibiscus tiliaceus* L.	•			
Kleinhovia hospita L.			•	*Antiviral:* (9*R*,10*R*, 23*R*)-21,23:23,27-diepoxycycloarta-1,24-diene-3,27-dione (**49**) and (9*R*,10*R*,21*S*,23*R*)-21/23,23/27-diepoxy-21-methoxycycloartan-1,24-diene-3,27-dione (**50**), HIV, IC_{50}: 0.8 and 2.4 μM [156].
Malachra capitata (L.) L.	•	•	•	
Thespesia populnea (L.) Soland. ex Correa	•			*Antibacterial:* Populene C (**42**), populene D (**43**), mansonone D (**44**), mansonone E (**45**), 7-hydroxycadalene (**46**), gossypol (**47**), and (+) 6,6′-methoxygossypol (**48**), *B. cereus* MIC: 4.6, 4.6, 2.3, 4.6, 0.5, 1.1, and 2.3 μg/mL, respectively. Gossypol (**47**) and (+) 6,6′-methoxygossypol (**48**), *S. aureus*, MIC: 1.1 and 4.6 μg/mL, respectively. (+) 6,6′-Methoxygossypol (**48**), *E. faecalis* MIC: 1.1 μg/mL [152].
MELIACEAE ***Aglaia cucullata* Pellegr.**	•	•	•	
***Xylocarpus granatum* J. Koenig**				*Antifungal:* 3-(1-Hydroxyethyl)-2,2-dimethyl-4-butyrolactone (**59**), 20 μg/mL, *B. graminis* by 67.4% [171]. *Antiviral:* Sundarbanxylogranin B (**55**), HIV-1, IC_{50}: 23.1 μM [167].
***Xylocarpus moluccensis* (Lam.) M. Roem.**				*Antiviral:* Thaixylomolin I (**56**), K (**57**), IVA, IC_{50}: 77.1, 113.5 μM [168]. Krishnolide A (**58**), 20 μM, HIV-1, 79.7% [169].
MORACEAE *Ficus microcarpa* L.f.				*Antiviral:* (+)(2*R*,3*S*) afzelechin (**36**) and (-)(2*R*,3*R*) epiafzelechin (**37**), HSV-1, IC_{50}: 490 and 550 μg/mL [122].
MYOPORACEAE *Myoporum bontioides* (Siebold & Zucc.) A. Gray	•	•		*Antibacterial:* Myoporumine A (**82**), myoporumine B (**83**), (−)-epingaione (**84**), and (–)-dehydroepingaione (**85**), MRSA, MIC: 6.2, 6.2, 25, and 25 μg/mL, respectively [250]. *Antifungal:* (−)-Epingaione (**84**), *F. oxysporum*, *Pestalotia mangiferae* (EC_{50}: 77 mg/L), *T. paradoxa* , *C.musae* , *A. alternata* , *M. sentina*, and *S. fawcettii* [249]. homomonoterpene, *P. capsici*, IC_{50} below 63.5 μg/mL [251].
MYRTACEAE *Melaleuca cajuputi* Roxb.	•	•		
Melaleuca quinquenervia (Cav.) S.T. Blake	•	•	•	
	•			

OLACAEAE *Olax scandens* Roxb.	•	•		
Ximenia americana L.	•	•		
PLUMBAGINACEAE ***Aegialitis rotundifolia* Roxb.**	•		•	
Limonium tetragonum (Thunb.) Bullock	•		•	
RHIZOPHORACEAE ***Bruguiera cylindrica* (L.) Bl.**	•			
***Bruguiera gymnorhiza* (L.) Savigny**	•		•	
***Bruguiera sexangula* (Lour.) Poir.**			•	
Carallia brachiata (Lour.) Merr.	•			
***Ceriops decandra* (Griff.) Ding Hou**		•	•	*Antibacterial:* 16-Hydroxypimar-8(14)-en-15-one (**22**), *B. cereus*, *S.* aureus, *M. kristinae*, *S. pyogenes*, and *S. pooni*, MIC:100, 100, 100, 500, and 250 μg/mL, respectively [80]. *Antibacterial:* 2,6-Dimethoxy-*p*-benzoquinone (**20**) [78]. Gallic acid (**21**), *K.* pneumoniae, *mirabilis, Proteus vulgaris, S. marcesens*, MIC 250, 500, 125, and 250 μg/mL, respectively [86]; *S. aureus*, MIC: 64 μg/mL, respectively, MRSA, MIC: 128 μg/mL [87]. *S. aureus*, *S. epidermidis*, *M. luteus*, *E. coli*, *B. subtilis*, MIC/MBC 600/2500, 300/600, 300/600, 2500/>2500, and 600/600 μg/mL respectively [79] *S. aureus*, MIC: 232 μg/mL, *B. subtilis*, MIC: 464 μg/mL [88]. *Antifungal:* 2,6-Dimethoxy-*p*-benzoquinone (**20**) [78]. Gallic acid (**21**), *C. albicans* [81] and MIC/MBC 1200/2500 μg/mL [79]. *Antiviral:* Gallic acid (**21**), EV- 71, IC_{50}: 0.7 μg/mL; HRV-3, 100 μg/mL, 58 %, [83]; HCV, IC_{50}: 15.9 μg/mL [87], HSV-1, IC_{50}: 20 μg/mL [91]; HCV, IC_{50}: 24.3 μg/mL [91]; Influenza A, IC_{50}: 2.6 μg/mL [89]; HCoV, IC_{50}: 71.4 μM [90,93], WSSV [84].
***Ceriops tagal* (Perr.) C.B. Rob.**				
Kandelia candel (L.) Druce				
***Rhizophora apiculata* Bl.**				
Rhizophora stylosa Griff.	•			

RUBIACEAE *Gardenia lucida* Roxb.	•	•		*Antifungal: 5*,4′-Dihydroxy-6,7,8,-trimethoxyflavone (**70**), *F. solani, A. parasiticus* and *C. tropicalis* [91] *Antiviral: 5*,4′-Dihydroxy-6,7,8,-trimethoxyflavone (**70**), *HIV, IC_{50}: 17.4* μM [236].
Guettarda speciosa L.	•			*Antibacterial:* Indole alkaloids, *M. tuberculosis* [230]. *Antiviral:* Loganic acid (**67**), IC_{50}: 20 μg/mL, HCV [228]. 4,5-di-*O*-caffeoylquinic acid (**69**) HIV-1, HIV-2, SIM, and HSV, EC_{50}: 0.6, 8, 2, and 0.1 μg/mL, respectively [81,229].
Hydnophytum formicarum Jack				*Antibacterial* Butein (**71**), *M. tuberculosis*, MIC: 12.5 μg/mL [237]. *Antiviral:* Butein (**71**), 50 μg/mL, HIV protease by 57.9% [88].
Morinda citrifolia L.				*Antibacterial:* Damnacanthal (**72)**, *P. aeruginosa,* 10 μg/disc [220]. 1,3-Dihydroxy-5-methoxy-2,6-bismethoxymethyl-9,10-anthraquinone, *S. aureus*, MIC: 24 μM [234]. (*E*)-phytol (**73**), *M. tuberculosis*, MIC: 32 μg/mL [232]. Damnacanthal (**70**), *M. tuberculosis*, MIC: 13 μg/mL [233,93]. *Antifungal:* Damnacanthal (**72**), *A. ochraceus*, *A. niger*, *C. lipolytica* [91].
	•	•		*Antiviral:* 1,3-Dihydroxy-5-methoxy-2,6-bismethoxymethyl-9,10-anthraquinone (**71**), Influenza virus A H1N1 and H3N2, IC_{50}: 10.5 and 11.5 μM, respectively [234]. 1,3-Dihydroxy-5-methoxy-6-methoxymethyl-2-methyl-9,10-anthraquinone, IVA H1N1, IC_{50}: 66.1 μM [234]. Asperuloside (**68**), HSV, IC_{50}: 111.3 μg/mL [234] and EBV [232].
	•		•	
Myrmecodia tuberosa Jack				*Antibacterial:* Iridoids, *S. aureus*, MIC: 100 μg/mL [231].
Psychotria serpens L.	•			
Scyphiphora hydrophyllacea C.F. Gaertn.	•	•		
RUTACEAE *Acronychia pedunculata* (L.) Miq.		•		*Antibacterial:* Acrovestone (**60**) [180].
Atalantia monophylla DC.				

Limnocitrus littoralis (Miq.) Swingle		•		
	•	•		
SALVADORACEAE	•	•		
Azima sarmentosa (Bl.) B. & H.				
	•	•	•	
Azima tetracantha Lam.				
SAPINDACEAE	•	•		
Allophylus cobbe (L.) Raeusch				
Harpullia arborea (Blanco) Radlk	•	•		
SIMAROUBACEAE				
Quassia indica (Gaertn.) Nooteboom	•	•		
SOLANACEAE	•	•		
Solanum viride R.Br.				
SONNERATIACEAE				
***Sonneratia apetala* Buch.-Ham**.				
	•			
***Sonneratia griffithii* Kurtz.**				Antibacterial: 3β-Hydroxy-lup-9(11),12-diene, 28-oic acid (**39**) , lupeol (**40**), lupan-3β-ol (**39)**, S. aureus, MIC: 32.2, 15.6, and 33.1 μg/mL, respectively. 3β-Hydroxy-lup-9(11),12-diene, 28-oic acid (**39**) , lupeol (**40**), lupan-3β-ol (**41)**, *S. mutans*, MIC: 35.6, 40.6, and 55.2 μg/mL, respectively [146].
	•			
***Sonneratia ovata* Back.**				
STERCULIACEAE				
***Heritera littoralis* Aiton**				
.				
	•			*Antibacterial:* Afzelin (**51**), *S. aureus*, *P. aeruginosa*, *S. typhi*; MIC: 8, 16, and 2 μg/mL, respectively [159]. Astilbin (**54**), *S. sobrinus* MIC/MBC: 225/900 μg/mL [161].
	•			*Antifungal:* Afzelin (**51**), *C. parapsilosis*, *C. neoformans*, MIC: 16 and 4 μg/mL, respectively [159]. Taraxerol (**52**), *T. mentagrophytes* and *T. rubrum*, MIC at 12.5μg/mL [55].
	•	•		

***Heritiera fomes* Buch. Ham.** VERBENACEAE *Premna odorata* Blanco *Premna integrifolia* L. VITACEAE *Cayratia trifolia* (L.) Domin	●			*Antiviral:* Afzelin (**51**), 50 μg/mL, HSV-1 by 72.5% [160]. Friedelin (**53**), HIPV-3, IC_{50}: 14×10^{-5} M [162], at 5 μg/mL HCoV by 132.4 % [163]. *Antibacterial:* 1-Heneicosyl formate (**86**), *M. tuberculosis*, MIC: 8 μg/mL [252]. *Antibacterial:* ε-Viniferin (**12**) (200 μL/well from 1 mg/mL solution), *E. coli* and *S.* aureus, 11 and 7 mm, respectively [56]. ε-Viniferin (**12**), MRSA, MIC: 25 μg/mL [57], *S. mutans* and *S. sanguis*, MIC/MBC: 25/50 and 50/50 μg/mL, respectively [54,55]. ε-Viniferin (**12**) *S. aureus* and *P. aeruginosa* , MIC: 512 and 256 μg/mL, respectively [59]. Resveratrol (**14**), *S. mutans* and *S. sanguis*, MIC/MBC: 50/50 and 50/100 μg/mL, respectively, *S. aureus*, MIC: 512 μg/mL [54,55]. *Antifungal:* Resveratrol (**14**), *B. cinerea*, conidia IC_{50}: 90 μg/mL [58]. *Antiviral:* ε -Viniferin (**12**), HCV, EC_{50}: 0.1 μM [54]. IVA, IC_{50}: 88.5 μg/mL [53]. Piceid (**13**), IVA, IC_{50}: 110.7 μg/mL [53].

Bold: true mangrove plants [3]
●: Activity of extract(s) reported in the literature
IZD: Inhibition zone diameter