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Antimicrobial Drug Discovery

# Primary Antimicrobial Screening

## Bacterial and Fungal

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## Document

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## 1.0 Summary

### 1.1 Study

Primary antimicrobial screening study by whole cell growth inhibition assays, using the provided samples at a single concentration, in duplicate (n=2). The inhibition of growth is measured against 5 bacteria: *Escherichia coli*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa* and *Staphylococcus aureus*, and 2 fungi: *Candida albicans* and *Cryptococcus neoformans*.

### 1.2 Collaborator

Primary Investigator: Victor Semenov(vs@zelinsky.ru)  
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### 1.3 Assay Parameters

<b>Test concentration</b>	32 µg/mL
<b>QC</b>	Duplicate (n=2) Control MIC: Pass
<b>Plates</b>	Non-Binding Surface, 384 well plate
<b>Media</b> Bacteria Fungi	Cation-adjusted Muller Hinton broth Yeast Nitrogen Base
<b>Read Out</b> Bacteria C. albicans C. neoformans	Resazurin F <sub>560/590</sub> OD <sub>530</sub> Resazurin OD <sub>600-570</sub>

### 1.4 Outcomes

<b>Number of samples tested</b>	<b>100</b>
<b>Number of Actives selected for Hit Confirmation</b>	<b>10</b>
<i>E. coli</i>	2
<i>K. pneumoniae - MDR</i>	0
<i>A. baumannii</i>	0
<i>P. aeruginosa</i>	0
<i>S. aureus – MRSA</i>	5
<i>C. albicans</i>	4
<i>C. neoformans</i>	4

\*Actives are defined as showing ≥80% inhibition of growth at the concentration tested

A full set of results can be found in Section 3.3.

## 1.5 Comments

To confirm the inhibitory activity, the hit compounds will be re-tested against the strains in a dose response assay to determine the minimum inhibitory concentration (MIC) of the compounds. Furthermore, to further evaluate the antimicrobial potential of the compounds they will be assayed against a mammalian cell line to determine general cell toxicity.

### 1.5.1 Summary antimicrobial active compounds

Single Concentration – 32 µg/mL, n=2, where one or both replicates were deemed active the compound is deemed active.

Inactive	I	Inhibition < 80% OR Z-Score < 2.5
Active	A	Inhibition ≥ 80% AND Z-Score ≥ 2.5

Sample Name	CO-ADD Sample ID	GP_020	GN_001	GN_003	GN_034	GN_042	FG_001	FG_002
		<i>S. aureus</i>	<i>E. coli</i>	<i>K. pneumoniae</i>	<i>A. baumannii</i>	<i>P. aeruginosa</i>	<i>C. albicans</i>	<i>C. neoformans</i>
		ATCC 43300	ATCC 25922	ATCC 700603	ATCC 19606	ATCC 27853	ATCC 90028	ATCC 208821
		MRSA	FDA control strain	MDR	Type strain	Type strain	FDA control strain	H99 Type strain
Antimicrobial activity at 32 µg/mL								
A0216/0009695	C0137629	A	I	I	I	I	A	A
A0630/0029207	C0137633	I	A	I	I	I	A	I
A0798/0037399	C0137636	I	A	I	I	I	I	I
A1562/0068089	C0137657	A	I	I	I	I	I	A
A2128/0089320	C0137666	I	I	I	I	I	A	I
A2318/0097772	C0137667	I	I	I	I	I	I	A
A2737/0116245	C0137671	A	I	I	I	I	I	A
A3115/0131999	C0137677	A	I	I	I	I	I	I
A4092/0174489	C0137703	A	I	I	I	I	I	I
A4174/0177822	C0137718	I	I	I	I	I	A	I

## 2.0 Methods

### 2.1 Sample preparation

Samples were provided by the collaborator as dry material, and were made to 10mg/mL in DMSO or water and stored at -20 °C.

An aliquot of each sample was further diluted to 320 µg/mL in water in 384-well polypropylene plates (**PP**), and 5 µL was plated in duplicate (**n=2**) into a 384-well non-binding surface plate (**NBS**) for each strain assayed against.

### 2.2 Antimicrobial Assay

#### 2.2.1 Procedure

All bacteria were cultured in Cation-adjusted Muller Hinton broth (CAMHB) at 37 °C overnight. A sample of each culture was then diluted 40-fold in fresh broth and incubated at 37 °C for 1.5-3 h. The resultant mid-log phase cultures were diluted (CFU/mL measured by OD600), then 45 µL was added to each well of the compound containing plates, giving a cell density of  $5 \times 10^5$  CFU/mL and a final compound concentration of **32 µg/mL** for the tested samples. All the plates were covered and incubated at 37 °C for 18 h without shaking.

#### 2.2.2 Analysis

Inhibition of bacterial growth was determined using resazurin as a marker for cell viability. Resazurin was added to each well, at 0.001% final concentration, and plates incubated at 37 °C for 2h. Fluorescence intensity is measured, using F (top read), ex 560/10 nm, em 590/10 nm ( $F_{560/590}$ ), using a Tecan M1000 Pro monochromator plate reader. The percentage of growth inhibition was calculated for each well, using the negative control (media only) and positive control (bacteria without inhibitors) on the same plate as references. The significance of the inhibition values was determined by Z-scores, calculated using the average and standard deviation of the sample wells (no controls) on the same plate. Samples with inhibition value above 80% and Z-Score above 2.5 for either replicate (n=2 on different plates) were classed as actives.

### 2.3 Antifungal Assay

#### 2.3.1 Procedure

Fungi strains were cultured for 3 days on Yeast Extract-Peptone Dextrose (YPD) agar at 30 °C. A yeast suspension of  $1 \times 10^6$  to  $5 \times 10^6$  cells/mL (as determined by  $OD_{530}$ ) was prepared from five colonies. These stock suspensions were diluted with Yeast Nitrogen Base (YNB) broth to a final concentration of  $2.5 \times 10^3$  CFU/mL. Then, 45 µL of the fungi suspension was added to each well of the compound-containing plates, giving a final concentration of **32 µg/mL** for the tested samples. Plates were covered and incubated at 35 °C for 24 h without shaking.

#### 2.3.2 Analysis

Growth inhibition of *C. albicans* was determined measuring absorbance at 530 nm (OD<sub>530</sub>), while the growth inhibition of *C. neoformans* was determined measuring the difference in absorbance between 600 and 570 nm (OD<sub>600-570</sub>), after the addition of resazurin (0.001% final concentration) and incubation at 35 °C for additional 2 h. The absorbance was measured using a Biotek Synergy HTX plate reader. The percentage of growth inhibition was calculated for each well, using the negative control (media only) and positive control (bacteria without inhibitors) on the same plate. The significance of the inhibition values was determined by Z-scores, calculated using the average and standard deviation of the sample wells (no controls) on the same plate. Samples with inhibition value above 80% and Z-Score above 2.5 for either replicate (n=2 on different plates) were classed as actives.

## 2.4 Antibiotic standards preparation and Quality control

Colistin and Vancomycin were used as positive bacterial inhibitor standards for Gram-negative and Gram-positive bacteria, respectively. Fluconazole was used as a positive fungal inhibitor standard for *C. albicans* and *C. neoformans*.

The antibiotics were provided in 4 concentrations, with 2 above and 2 below its MIC value, and plated into the first 8 wells of column 23 of the 384-well NBS plates.

The quality control (QC) of the assays was determined by the antimicrobial controls and the Z'-factor (using positive and negative controls). Each plate was deemed to fulfil the quality criteria (pass QC), if the Z'-factor was above 0.4, and the antimicrobial standards showed full range of activity, with full growth inhibition at their highest concentration, and no growth inhibition at their lowest concentration.

## 2.5 Materials

<i>Material</i>	<i>Code</i>	<i>Brand</i>	<i>Cat No.</i>
Compound preparation plate	PP	Corning	3364
Assay Plates	NBS 384w	Corning	3640
Growth media - bacteria	CAMHB	Bacto Laboratories	212322
Culture agar - fungi	YPD	Becton Dickinson	242720
Growth media - fungi	YNB	Becton Dickinson	233520
Resazurin		Sigma-Aldrich	R7017

## 2.6 Tested Samples

Compound Barcode	Sample Name	CO-ADD Sample ID	Full MW	Amount Supplied			Stock Conc. (mg/mL)	Solvent
				Solid (mg)	Solution			
					Volume (µL)	Conc.		
FR09963400	A0025/0001198	C0137621	373.27	1.9			10.0	DMSO
FR09963408	A0026/0001215	C0137622	335.42	1.3			10.0	DMSO
FR09963416	A0028/0001302	C0137623	404.43	1.6			10.0	DMSO
FR09963424	A0035/0001504	C0137624	323.41	1.3			10.0	DMSO
FR09963432	A0094/0004047	C0137625	310.65	1.9			10.0	DMSO
FR09963440	A0176/0007953	C0137626	336.43	1.6			10.0	DMSO
FR09963448	A0183/0008176	C0137627	418.55	1.4			10.0	DMSO
FR09963456	A0210/0009396	C0137628	357.11	1.8			10.0	DMSO
FR09963464	A0216/0009695	C0137629	281.66	1.3			10.0	DMSO
FR09963472	A0230/0010385	C0137630	342.84	1.3			10.0	DMSO
FR09963480	A0230/0010388	C0137631	387.29	1.5			10.0	DMSO
FR09963401	A0606/0028043	C0137632	261.24	1.3			10.0	DMSO
FR09963409	A0630/0029207	C0137633	247.21	1.2			10.0	DMSO
FR09963417	A0630/0029208	C0137634	249.20	1.7			10.0	DMSO
FR09963425	A0688/0032073	C0137635	361.26	1.7			10.0	DMSO
FR09963433	A0798/0037399	C0137636	360.55	1.7			10.0	DMSO
FR09963441	A0829/0038848	C0137637	308.40	1.4			10.0	DMSO
FR09963449	A0889/0041722	C0137638	353.17	1.6			10.0	DMSO
FR09963457	A0896/0042053	C0137639	356.13	1.3			10.0	DMSO
FR09963465	A0943/0044158	C0137640	245.28	1.5			10.0	DMSO
FR09963473	A1223/0056403	C0137641	363.33	1.3			10.0	DMSO
FR09963481	A1235/0056785	C0137642	384.31	1.6			10.0	DMSO
FR09963402	A1250/0057176	C0137643	236.27	1.3			10.0	DMSO
FR09963410	A1393/0062280	C0137644	316.13	1.8			10.0	DMSO
FR09963418	A1397/0062469	C0137645	201.18	1.6			10.0	DMSO
FR09963426	A1399/0062528	C0137646	300.10	1.5			10.0	DMSO
FR09963434	A1399/0062532	C0137647	287.32	1.3			10.0	DMSO
FR09963442	A1405/0062766	C0137648	319.36	1.5			10.0	DMSO
FR09963450	A1439/0063802	C0137649	283.25	1.5			10.0	DMSO
FR09963458	A1559/0067914	C0137650	312.32	1.4			10.0	DMSO
FR09963466	A1562/0068074	C0137651	300.10	1.7			10.0	DMSO
FR09963474	A1562/0068077	C0137652	232.20	1.7			10.0	DMSO
FR09963482	A1562/0068080	C0137653	342.11	1.3			10.0	DMSO
FR09963403	A1562/0068084	C0137654	354.12	1.7			10.0	DMSO
FR09963411	A1562/0068086	C0137655	401.80	1.6			10.0	DMSO
FR09963419	A1562/0068087	C0137656	321.29	1.8			10.0	DMSO
FR09963427	A1562/0068089	C0137657	297.27	1.9			10.0	DMSO
FR09963435	A1567/0068332	C0137658	437.72	1.7			10.0	DMSO

Compound Barcode	Sample Name	CO-ADD Sample ID	Full MW	Amount Supplied			Stock Conc. (mg/mL)	Solvent
				Solid (mg)	Solution			
					Volume (µL)	Conc.		
FR09963443	A1792/0075933	C0137659	317.42	1.8			10.0	DMSO
FR09963451	A1937/0081477	C0137660	291.34	1.7			10.0	DMSO
FR09963459	A1993/0083755	C0137661	128.10	1.5			10.0	DMSO
FR09963467	A2000/0084006	C0137662	443.25	1.5			10.0	DMSO
FR09963475	A2038/0085664	C0137663	395.03	1.8			10.0	DMSO
FR09963483	A2119/0088953	C0137664	274.67	1.6			10.0	DMSO
FR09963404	A2126/0089227	C0137665	335.30	1.8			10.0	DMSO
FR09963412	A2128/0089320	C0137666	448.58	1.3			10.0	DMSO
FR09963420	A2318/0097772	C0137667	143.10	1.3			10.0	DMSO
FR09963428	A2487/0105711	C0137668	254.16	1.8			10.0	DMSO
FR09963436	A2503/0106468	C0137669	219.20	1.3			10.0	DMSO
FR09963444	A2728/0115831	C0137670	355.38	1.8			10.0	DMSO
FR09963452	A2737/0116245	C0137671	385.50	1.8			10.0	DMSO
FR09963460	A2759/0117096	C0137672	245.40	1.6			10.0	DMSO
FR09963468	A2780/0117628	C0137673	363.25	1.4			10.0	DMSO
FR09963476	A2808/0118765	C0137674	348.36	1.2			10.0	DMSO
FR09963484	A3096/0131041	C0137675	328.45	1.6			10.0	DMSO
FR09963405	A3096/0131042	C0137676	332.40	1.6			10.0	DMSO
FR09963413	A3115/0131999	C0137677	298.38	1.2			10.0	DMSO
FR09963421	A3141/0132850	C0137678	292.30	1.2			10.0	DMSO
FR09963429	A3302/0140319	C0137679	357.31	1.4			10.0	DMSO
FR09963437	A3358/0142562	C0137680	323.78	1.6			10.0	DMSO
FR09963445	A3597/0152413	C0137681	234.24	1.3			10.0	DMSO
FR09963453	A3636/0154272	C0137682	345.39	1.5			10.0	DMSO
FR09963461	A3799/0161220	C0137683	365.45	1.3			10.0	DMSO
FR09963469	A3819/0162158	C0137684	308.30	1.7			10.0	DMSO
FR09963477	A3826/0162488	C0137685	312.71	1.3			10.0	DMSO
FR09963485	A3826/0162489	C0137686	296.26	1.5			10.0	DMSO
FR09963406	A3852/0163615	C0137687	340.287	1.7			10.0	DMSO
FR09963414	A3910/0166317	C0137688	302.29	1.4			10.0	DMSO
FR09963422	A3990/0170008	C0137689	420.38	1.7			10.0	DMSO
FR09963430	A4029/0171769	C0137690	268.68	1.6			10.0	DMSO
FR09963438	A4034/0171963	C0137691	225.22	1.7			10.0	DMSO
FR09963446	A4034/0171964	C0137692	225.22	1.7			10.0	DMSO
FR09963454	A4039/0172196	C0137693	276.33	1.5			10.0	DMSO
FR09963462	A4052/0172832	C0137694	421.39	1.7			10.0	DMSO
FR09963470	A4080/0173864	C0137695	380.40	1.3			10.0	DMSO
FR09963478	A4080/0173906	C0137696	380.48	1.3			10.0	DMSO
FR09963486	A4084/0174093	C0137697	234.28	1.7			10.0	DMSO



Compound Barcode	Sample Name	CO-ADD Sample ID	Full MW	Amount Supplied			Stock Conc. (mg/mL)	Solvent
				Solid (mg)	Solution			
					Volume (µL)	Conc.		
FR09963407	A4084/0174094	C0137698	234.28	1.6			10.0	DMSO
FR09963415	A4085/0174113	C0137699	303.30	1.7			10.0	DMSO
FR09963423	A4092/0174485	C0137700	371.34	1.4			10.0	DMSO
FR09963431	A4092/0174487	C0137701	371.14	1.4			10.0	DMSO
FR09963439	A4092/0174488	C0137702	292.24	1.7			10.0	DMSO
FR09963447	A4092/0174489	C0137703	262.22	1.7			10.0	DMSO
FR09963455	A4096/0174684	C0137704	289.28	1.6			10.0	DMSO
FR09963463	A4111/0175283	C0137705	162.15	1.7			10.0	DMSO
FR09963471	A4114/0175404	C0137706	206.13	1.5			10.0	DMSO
FR09963479	A4168/0177620	C0137707	425.46	1.6			10.0	DMSO
FR09963487	A4173/0177800	C0137708	288.26	1.9			10.0	DMSO
FR09963496	A4173/0177801	C0137709	288.26	1.5			10.0	DMSO
FR09963504	A4173/0177802	C0137710	302.29	1.7			10.0	DMSO
FR09963512	A4173/0177804	C0137711	318.29	1.6			10.0	DMSO
FR09963520	A4173/0177805	C0137712	302.25	1.6			10.0	DMSO
FR09963528	A4173/0177807	C0137713	259.22	1.7			10.0	DMSO
FR09963536	A4173/0177808	C0137714	259.22	1.5			10.0	DMSO
FR09963544	A4173/0177811	C0137715	276.23	1.9			10.0	DMSO
FR09963552	A4173/0177814	C0137716	264.26	1.8			10.0	DMSO
FR09963560	A4174/0177820	C0137717	408.41	1.7			10.0	DMSO
FR09963568	A4174/0177822	C0137718	222.24	1.9			10.0	DMSO
FR09963576	A4189/0178484	C0137719	288.27	1.5			10.0	DMSO
FR09963497	A4189/0178485	C0137720	365.35	1.4			10.0	DMSO

## 2.7 Antibiotic Controls

Sample Name	Sample ID	Full MW	Stock Conc (mg/mL)	Solvent	Source
Colistin - Sulfate	MCC_000094:02	1400.63	10	DMSO	Sigma; C4661
Vancomycin - HCL	MCC_000095:02	1485.71	10	DMSO	Sigma; 861987
Fluconazole	MCC_008383:01	306.27	2.56	DMSO	Sigma; F8929

## 2.8 Microbial Strains

ID	Batch	Organism	Strain	Description
GN_001	02	<i>Escherichia coli</i>	ATCC 25922	FDA control strain
GN_003	02	<i>Klebsiella pneumoniae</i>	ATCC 700603	MDR
GN_034	02	<i>Acinetobacter baumannii</i>	ATCC 19606	Type strain
GN_042	02	<i>Pseudomonas aeruginosa</i>	ATCC 27853	Type strain
GP_020	02	<i>Staphylococcus aureus</i>	ATCC 43300	MRSA
FG_001	01	<i>Candida albicans</i>	ATCC 90028	CLSI reference
FG_002	01	<i>Cryptococcus neoformans</i>	ATCC 208821	H99 - Type strain

### 3.0 Results

#### 3.1 Controls

All antibiotic controls displayed inhibitory values within the expected range.

<i>Strain ID</i>	<i>Species</i>	<i>Antibiotic</i>	<i>Pass/Fail</i>
GN_001:02	<i>E. coli</i>	Colistin	Pass
GN_003:02	<i>K. pneumoniae</i> (MDR)	Colistin	Pass
GN_034:02	<i>A. baumannii</i>	Colistin	Pass
GN_042:02	<i>P. aeruginosa</i>	Colistin	Pass
GP_020:02	<i>S. aureus</i> (MRSA)	Vancomycin	Pass
FG_001:01	<i>C. albicans</i>	Fluconazole	Pass
FG_002:01	<i>C. neoformans</i> (H99)	Fluconazole	Pass

## 3.2 Antimicrobial Activity

### 3.2.1 Primary Screening

Single Concentration – 32 µg/mL, n=2, where one or both replicates were deemed active the compound is deemed active.

Inactive	I	Inhibition < 80% OR Z-Score < 2.5
Active	A	Inhibition ≥ 80% AND Z-Score ≥ 2.5

Sample Name	CO-ADD Sample ID	GP_020	GN_001	GN_003	GN_034	GN_042	FG_001	FG_002
		<i>S. aureus</i>	<i>E. coli</i>	<i>K. pneumoniae</i>	<i>A. baumannii</i>	<i>P. aeruginosa</i>	<i>C. albicans</i>	<i>C. neoformans</i>
		ATCC 43300	ATCC 25922	ATCC 700603	ATCC 19606	ATCC 27853	ATCC 90028	ATCC 208821
		MRSA	FDA control strain	MDR	Type strain	Type strain	FDA control strain	H99 Type strain
Antimicrobial activity at 32 µg/mL								
A0025/0001 198	C0137621	I	I	I	I	I	I	I
A0026/0001 215	C0137622	I	I	I	I	I	I	I
A0028/0001 302	C0137623	I	I	I	I	I	I	I
A0035/0001 504	C0137624	I	I	I	I	I	I	I
A0094/0004 047	C0137625	I	I	I	I	I	I	I
A0176/0007 953	C0137626	I	I	I	I	I	I	I
A0183/0008 176	C0137627	I	I	I	I	I	I	I
A0210/0009 396	C0137628	I	I	I	I	I	I	I
A0216/0009 695	C0137629	A	I	I	I	I	A	A
A0230/0010 385	C0137630	I	I	I	I	I	I	I
A0230/0010 388	C0137631	I	I	I	I	I	I	I
A0606/0028 043	C0137632	I	I	I	I	I	I	I
A0630/0029 207	C0137633	I	A	I	I	I	A	I
A0630/0029 208	C0137634	I	I	I	I	I	I	I
A0688/0032 073	C0137635	I	I	I	I	I	I	I
A0798/0037 399	C0137636	I	A	I	I	I	I	I
A0829/0038 848	C0137637	I	I	I	I	I	I	I
A0889/0041 722	C0137638	I	I	I	I	I	I	I
A0896/0042 053	C0137639	I	I	I	I	I	I	I
A0943/0044 158	C0137640	I	I	I	I	I	I	I

Sample Name	CO-ADD Sample ID	GP_020	GN_001	GN_003	GN_034	GN_042	FG_001	FG_002
		<i>S. aureus</i>	<i>E. coli</i>	<i>K. pneumoniae</i>	<i>A. baumannii</i>	<i>P. aeruginosa</i>	<i>C. albicans</i>	<i>C. neoformans</i>
		ATCC 43300	ATCC 25922	ATCC 700603	ATCC 19606	ATCC 27853	ATCC 90028	ATCC 208821
		MRSA	FDA control strain	MDR	Type strain	Type strain	FDA control strain	H99 Type strain
Antimicrobial activity at 32 µg/mL								
A1223/0056 403	C0137641							
A1235/0056 785	C0137642							
A1250/0057 176	C0137643							
A1393/0062 280	C0137644							
A1397/0062 469	C0137645							
A1399/0062 528	C0137646							
A1399/0062 532	C0137647							
A1405/0062 766	C0137648							
A1439/0063 802	C0137649							
A1559/0067 914	C0137650							
A1562/0068 074	C0137651							
A1562/0068 077	C0137652							
A1562/0068 080	C0137653							
A1562/0068 084	C0137654							
A1562/0068 086	C0137655							
A1562/0068 087	C0137656							
A1562/0068 089	C0137657	A						A
A1567/0068 332	C0137658							
A1792/0075 933	C0137659							
A1937/0081 477	C0137660							
A1993/0083 755	C0137661							
A2000/0084 006	C0137662							
A2038/0085 664	C0137663							
A2119/0088 953	C0137664							
A2126/0089 227	C0137665							
A2128/0089 320	C0137666						A	

Sample Name	CO-ADD Sample ID	GP_020	GN_001	GN_003	GN_034	GN_042	FG_001	FG_002
		<i>S. aureus</i>	<i>E. coli</i>	<i>K. pneumoniae</i>	<i>A. baumannii</i>	<i>P. aeruginosa</i>	<i>C. albicans</i>	<i>C. neoformans</i>
		ATCC 43300	ATCC 25922	ATCC 700603	ATCC 19606	ATCC 27853	ATCC 90028	ATCC 208821
		MRSA	FDA control strain	MDR	Type strain	Type strain	FDA control strain	H99 Type strain
Antimicrobial activity at 32 µg/mL								
A2318/0097772	C0137667							A
A2487/0105711	C0137668							
A2503/0106468	C0137669							
A2728/0115831	C0137670							
A2737/0116245	C0137671	A						A
A2759/0117096	C0137672							
A2780/0117628	C0137673							
A2808/0118765	C0137674							
A3096/0131041	C0137675							
A3096/0131042	C0137676							
A3115/0131999	C0137677	A						
A3141/0132850	C0137678							
A3302/0140319	C0137679							
A3358/0142562	C0137680							
A3597/0152413	C0137681							
A3636/0154272	C0137682							
A3799/0161220	C0137683							
A3819/0162158	C0137684							
A3826/0162488	C0137685							
A3826/0162489	C0137686							
A3852/0163615	C0137687							
A3910/0166317	C0137688							
A3990/0170008	C0137689							
A4029/0171769	C0137690							
A4034/0171963	C0137691							
A4034/0171964	C0137692							

Sample Name	CO-ADD Sample ID	GP_020	GN_001	GN_003	GN_034	GN_042	FG_001	FG_002
		<i>S. aureus</i>	<i>E. coli</i>	<i>K. pneumoniae</i>	<i>A. baumannii</i>	<i>P. aeruginosa</i>	<i>C. albicans</i>	<i>C. neoformans</i>
		ATCC 43300	ATCC 25922	ATCC 700603	ATCC 19606	ATCC 27853	ATCC 90028	ATCC 208821
		MRSA	FDA control strain	MDR	Type strain	Type strain	FDA control strain	H99 Type strain
Antimicrobial activity at 32 µg/mL								
A4039/0172 196	C0137693							
A4052/0172 832	C0137694							
A4080/0173 864	C0137695							
A4080/0173 906	C0137696							
A4084/0174 093	C0137697							
A4084/0174 094	C0137698							
A4085/0174 113	C0137699							
A4092/0174 485	C0137700							
A4092/0174 487	C0137701							
A4092/0174 488	C0137702							
A4092/0174 489	C0137703	A						
A4096/0174 684	C0137704							
A4111/0175 283	C0137705							
A4114/0175 404	C0137706							
A4168/0177 620	C0137707							
A4173/0177 800	C0137708							
A4173/0177 801	C0137709							
A4173/0177 802	C0137710							
A4173/0177 804	C0137711							
A4173/0177 805	C0137712							
A4173/0177 807	C0137713							
A4173/0177 808	C0137714							
A4173/0177 811	C0137715							
A4173/0177 814	C0137716							
A4174/0177 820	C0137717							
A4174/0177 822	C0137718						A	

Sample Name	CO-ADD Sample ID	GP_020	GN_001	GN_003	GN_034	GN_042	FG_001	FG_002
		<i>S. aureus</i>	<i>E. coli</i>	<i>K. pneumoniae</i>	<i>A. baumannii</i>	<i>P. aeruginosa</i>	<i>C. albicans</i>	<i>C. neoformans</i>
		ATCC 43300	ATCC 25922	ATCC 700603	ATCC 19606	ATCC 27853	ATCC 90028	ATCC 208821
		MRSA	FDA control strain	MDR	Type strain	Type strain	FDA control strain	H99 Type strain
		Antimicrobial activity at 32 µg/mL						
A4189/0178 484	C0137719							
A4189/0178 485	C0137720							