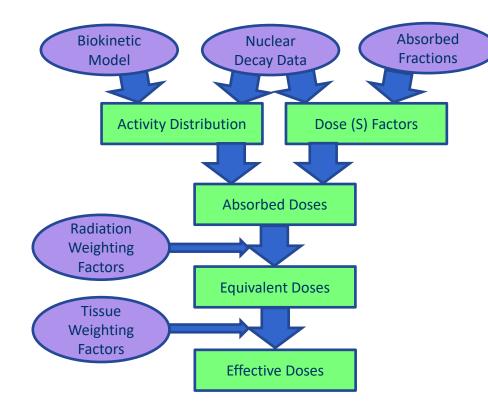
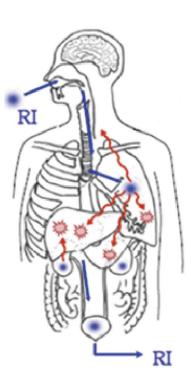
# **Old and New: Internal Dosimetry Calculations** with the **OpenDose Calculator**

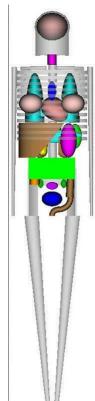
Erin McKay Radiation Safety Officer St. George Hospital

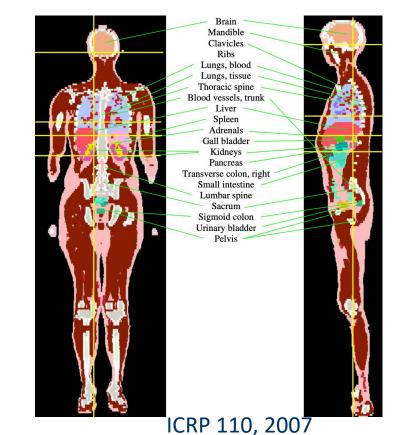
### **Internal Dosimetry Calculations**





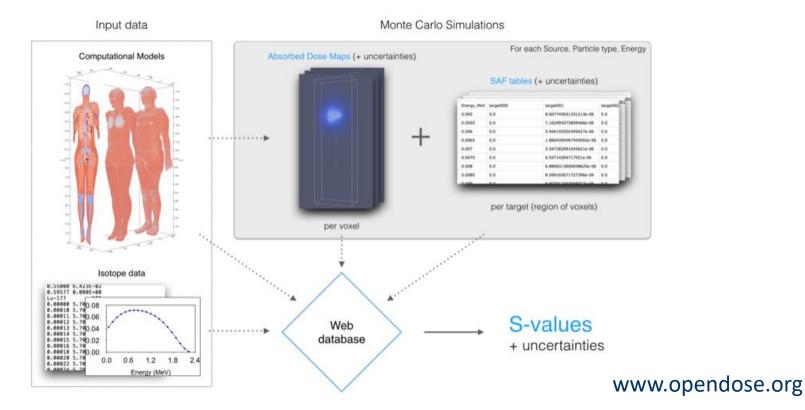
#### RADAR vs ICRP 89, 110, 133





Cristy & Eckerman 1987

### The OpenDose Collaboration



### Aim

- Develop a platform for radiopharmaceutical dosimetry reporting using arbitrary collections of absorbed fractions and spectra.
- Assess reports based on absorbed fractions from the RADAR web-site and from ICRP 133 and radiation spectra from ICRP 107.

**OpenDose Calculator** 

Internal Data 🔻





OpenDose

Internal Dosimetry Calculator Version 0.50.2 2021-07-04 erin@computerhead.com.au

Spectrum Phantom I-122 ICRP AF I-123 ICRP AM I-124 OpenDose AF I-125 OpenDose AM I-126 RADAR Adult RADAR Child01 I-128 I-129 RADAR Child05 I-130 RADAR Child10 I-130m RADAR Child15 I-131 RADAR Female

Import	Residence C	Calculator 🔻
Export	Clear	Zero

Preferences...

Help

	Kes	idence Time i	n Sour	ce Regions			
	Adrenals		+/-	0.0E00	h		
	Brain		+/-	0.0E00	h		l
	Breasts		+/-	0.0E00	h		l
	GB Cont		+/-	0.0E00	h		
	LLI Cont	6.446E-01	+/-	0.0E00	h		
	SI Cont	7.038E-02	+/-	0.0E00	h		
	StomCont	2.293E00	+/-	0.0E00	h		
	ULI Cont	2.336E-01	+/-	0.0E00	h		
	HeartCon		+/-	0.0E00	h		
	Retention 8.9	37E01 h	Exc	retion 1.883	E02 h		
•	Dose Factors 🔻	Dose Repo	rts 🔻			Quit	

Import Radiation...

Import Spectra...

Import Phantom...

0 0		OpenDose Calcul	ator					
		• • •		Dose	Distribution Dis	splay		
	<b>OpenDo</b> s		ADAR Adult	Source	All	0	Adjust Target Mas	ses
	Internal Dosimetry Calcu Version 0.50.2 2021-07-04 erin@computerhead.com.au		-18	Radiation	Total	0	Adjust Radiation We	eights
		Target	Mass (g)	Absorbed Dose		Dose (mSv) Uncertair		
	_	Adrenals	1.63E01	1.189E-02	1.189E-0		5.947E-05	
Spectrum	Phantom	Brain	1.42E03	3.694E-02	3.694E-0		1.847E-04	
u-152n	ICKP AM	Breasts Gallbladder Wall	3.51E02 1.05E01	8.515E-03 1.279E-02	8.515E-0 1.279E-0		4.258E-04 0.0E00	
u-154	OpenDose AF	LLI Wall	1.67E02	1.365E-02	1.365E-0		1.638E-03	
u-154m	OpenDose AM	Small Intestine	6.77E02	1.198E-02	1.198E-0		5.989E-05	
u-155	RADAR Adult	Stomach Wall	1.58E02	1.099E-02	1.099E-0		1.319E-03	
u-155	RADAR Child01	ULI Wall	2.2E02	1.161E-02	1.161E-0		5.807E-05	
u-150 u-157	RADAR Child05	Heart Wall	3.16E02	6.73E-02	6.73E-02		0.0E00	
u-157 u-158	RADAR Child10	Kidneys	2.99E02	1.051E-02	1.051E-0		5.253E-05	
	RADAR Child15	Liver	1.91E03	2.054E-02	2.054E-0		1.027E-03	
u-159	RADAR Female	Lungs	1.0E03	1.934E-02	1.934E-0		2.321E-03	
-17	RADAR Newborn	Muscle	2.8E04	9.984E-03	9.984E-0		4.992E-05	
-18	DADAD Becare at 2	Ovaries	8.71E00	1.374E-02	1.374E-0		2.747E-03	
		Pancreas	9.43E01	1.232E-02	1.232E-0		6.158E-05	
Destday	ce Times Equivalent Doses	Red Marrow	1.12E03	9.666E-03	9.666E-0	3 0.0E00	1.16E-03	
Kesider	ice lintes Equivalent Doses	Osteogenic Cells	1.2E02	1.196E-02	1.196E-0	2 0.0E00	1.196E-04	
		Skin	3.01E03	7.607E-03	7.607E-0	3 0.0E00	7.607E-05	
Import.	Residence Calculator 🔻	Spleen	1.83E02	1.03E-02	1.03E-02	0.0E00	5.149E-05	
		Testes	3.91E01	1.078E-02	1.078E-0	2 0.0E00	0.0E00	
C Francis		Thymus	2.09E01	1.128E-02	1.128E-0	2 0.0E00	5.641E-05	
Export.	Clear Zero	Thyroid	2.07E01	9.847E-03	9.847E-0	3 0.0E00	4.924E-04	
		Urinary Bladder Wa	II 4.76E01	1.308E-01	1.308E-0	1 0.0E00	6.541E-03	
		Uterus	7.9E01	1.817E-02	1.817E-0	2 0.0E00	9.083E-05	
Help Pret	ferences	Tissue Weight	ing ICRP 60	ᅌ Admin	istered Activity	1.0E00	+/- 0.0E00	MBq
				Effecti	ve Dose	1.859E-02	+/- 0.0E00	mSv

### **Generation of Dose Reports**

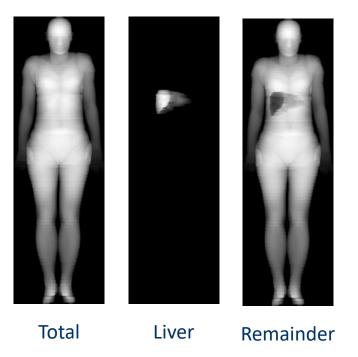
- Construct Phantoms
- Evaluate Biokinetic Models
- Calculate Effective Dose

### **Phantom Construction**

- Based on collections of (specific) absorbed fractions (AFs or SAFs)
- Described by a manifest file (JSON format)
- Can include post-composition adjustments:
  - Default radiation weighting factors (OLINDA/EXM)
  - Default target mass changes (ICRP 110/133)
  - Replacement of particular fractions (OpenDose marrow)

### **Subtractive Model**

- Used by RADAR, OLINDA/EXM (v1)
- Generate SAFs for source organs and total body irradiating target organs.
- Combine with emission spectra to form dose factors (DFs or S-values)
- Calculate DFs for organs irradiated by remainder of body by subtracting mass-weighted fractions of the source organ DFs from the total body DFs



# **Remainder of Body Source**

For the total body source the cumulated activity in each tissue is simply proportional to its mass:

 $m_{TB}S_{lung\leftarrow TB} = m_{liver}S_{lung\leftarrow liver} + m_{RB}S_{lung\leftarrow RB}$ 

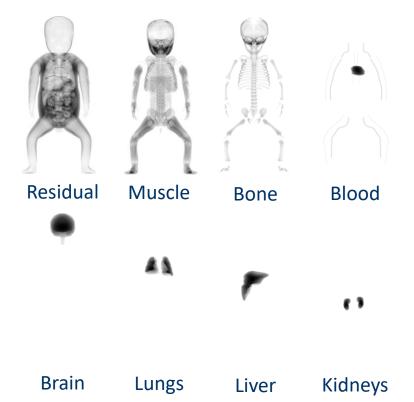
**Rearranging:** 

$$S_{lung\leftarrow RB} = \frac{m_{TB}}{m_{RB}} S_{lung\leftarrow TB} - \frac{m_{liver}}{m_{RB}} S_{lung\leftarrow liver}$$

This is prone to truncation due to the low precision of rounded-off SAF values.

### **Additive Model**

- Used by ICRP 133, IDAC (v2)
- Generate SAFs for all defined organ regions irradiating each other.
- Combine with emission spectra to form dose factors (DFs)
- Calculate DFs for the Remainder of Body by weighted sum of unused source DFs.



### **Remainder of Body Source**

Starting with the same assumption of activity distributed in proportion to source region mass:

$$S_{lung\leftarrow RB} = \sum_{organ} \frac{m_{organ}}{m_{RB}} S_{lung\leftarrow organ} - \frac{m_{liver}}{m_{RB}} S_{lung\leftarrow liver}$$

This is more stable than the subtractive algorithm as the contribution from specified sources simply cancels out.

# **Kinetic Model Evaluation**

- Each phantom supports zero or more plug-in residence time calculators
- This is determined by a section in the phantom manifest
- Each subsection maps calculator variables (LHS) onto one or more phantom source regions (RHS)
- Variables are identified by position, not name

```
"residence time":[
  ["ICRP General",[
    ["Adrenals",[["Adrenals",1.0]]],
    ["Other",[["TotBody",1.0]]]
  1],
  ["ICRP Gut",[
    ["Stomach",[["StomCont",1.0]]],
    ["Lower Lg. Int.",[["LLI Cont",1.0]]]
  11,
  ["ICRP Renal",[
    ["Kidneys",[["Kidneys",1.0]]],
    ["Bladder",[["UB Cont",1.0]]]
  ]]
```

# ICRP General (ICRP 53)

"icrp general":{ "compartments":[ ["Bone Surfaces",0.5,[ [-1.0,0.25,"h"], [0.3,2.0,"h"], [0.7,72.0,"h"] ]], ["Kidneys",0.02,[ [0.3,0.5,"h"], [0.3,2.0,"h"], [0.4,72.0,"h"] ]], ["Other",1.0,[ [0.3,0.5,"h"], [0.3,2.0,"h"], [0.4,72.0,"h"] ]]

Source	Fraction	Amount	Half-Time	
Bone Surfaces	5.0E-01	-1.0E00	2.5E-01	h
		3.0E-01	2.0E00	h
		7.0E-01	7.2E01	h
Kidneys	2.0E-02	3.0E-01	5.0E-01	h
		3.0E-01	2.0E00	h
		4.0E-01	7.2E01	h
Other	1.0E00	3.0E-01	5.0E-01	h
		3.0E-01	2.0E00	h

$$\frac{\tilde{A}_{\rm S}}{A_0} = F_{\rm S} \sum_{j=n+1}^{n+m} a_j \sum_{i=1}^n \left\{ a_i \frac{T_i}{T_i - T_j} \left[ \exp\left(\frac{-\ln(2)}{T_{i,eff}}t\right) - \exp\left(\frac{-\ln(2)}{T_{j,eff}}t\right) \right] \right\}$$

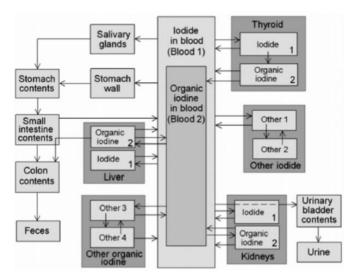
### ICRP Renal Model (ICRP 53)

"icrp_renal":{
"fraction":1.0,
"clearance":[
[null,0.3,0.5,"h"],
[null,0.3,2.0,"h"],
[null,0.4,72.0,"h"]
],
"transit_time":[5.0,"m"],
"void_interval":[3.5,"h"]
}

$$\widetilde{A}_{B} = f_{r} \sum_{i=1}^{n} a_{i} \left[ \frac{1 - \exp(-\lambda_{p} t_{v})}{\lambda_{p}} - \frac{1 - \exp(-(\lambda_{i} + \lambda_{p}) t_{v})}{\lambda_{i} + \lambda_{p}} \right]$$
$$\times \left[ \frac{1}{1 - \exp(-(\lambda_{i} + \lambda_{p}) t_{v})} \right]$$

Cleared F	raction	1.0E00	
Renal Tra	nsit Time	5.0E00	m
Bladder v	oids every	3.5E00	h
	Fraction	Half-Time	
Phase 1	3.0E-01	5.0E-01	h
Phase 2	3.0E-01	2.0E00	h
Phase 3	4.0E-01	7.2E01	h
oad	Save	Cancel	OK

#### **Compartment Modeller**

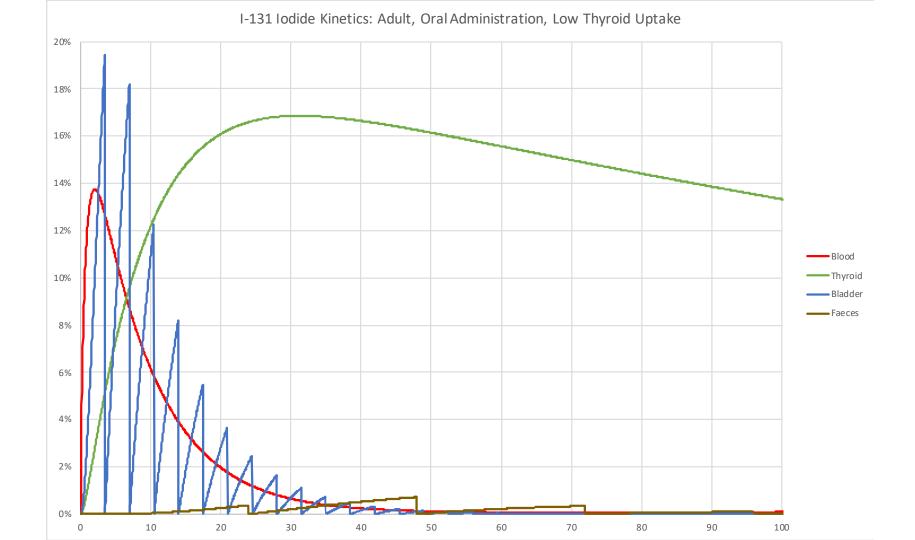


**ICRP** Publication 128

Fig. C.2. Compartment model used to describe the kinetics of iodine (Leggett, 2010).

0 0 Dynamic System Kinetics Curves Transfers Half-Time Source Target Blood Iodide Salivary Glands 3.22E00 h Stomach Wall Blood Iodide 1.94E00 h Blood Iodide Other 1 2.77E-02 h Blood Iodide Kidneys 1 6.66E-01 h Blood Iodide Liver 1 1.11E00 h Salivary Glands Stomach Contents 3.33E-01 h Stomach Wall Stomach Contents 3.33E-01 h 1.75E-01 h Thyroid 1 Thyroid 2 Thyroid 1 Blood Iodide 4.62E-01 h Thyroid 2 Blood Organic 2.16E03 h Load Cancel OK

(ICRP 128)



### **Effective Dose Calculation**

- Each phantom supports zero or more plug-in effective dose calculators
- Again this is determined by a section in the phantom manifest
- Each subsection maps calculator variables (LHS) onto one or more phantom target regions (RHS)

```
"effective dose":[
  ["ICRP 60",[
     ["Adrenals",[["Adrenals",null]]],
    ["Gonads",[["Ovaries",null],["Testes",null]]],
    ...
    ["Oesophagus",[]]
  Ш,
  ["ICRP 103",[
    ["Adrenals", [["Adrenals", null]]],
    ["Salivary Glands",[]]
  Ш
```

### Validation Framework

"icrp_general":{ "compartments":[							
		-	mckayer — -bas	h 62,419			
]							
,				lications/reMIR	-		
validation":{		_		Users/mckayer/Ap dule/ICRP\ Gener			
"spectrum":F-18,	dult\)\ F-18.js		Restdenceriment	duie/ickr( dene	101/FD01 11A		
"half life":1.8295,	SOURCE REGION		EXPECTED	MEASURED	RATIO		
-	Brain	=>	2.10e-01	2.11e-01	1.01		
"time_unit":"h",	HrtWall	=>	1.10e-01	1.06e-01	0.96		
"tolerance":0.02,	Lungs	=> =>	7.90e-02 1.30e-01	7.92e-02 1.32e-01	1.00		
"residence time":[	Kidneys	=>	0.00e+00	8.67e-01	0.00		
	Other	=>	1.70e+00	1.70e+00	1.00		
["Brain",0.21,"h"],	Total Reference	s: 6					
["HrtWall",0.11,"h"],	Total Compared:						
["Lungs",0.079,"h"],		Total Differences: 1 Fraction Over 2% Different: 0.166666666666666666					
			rerent: 0.166666	66666666666			
["Liver",0.13,"h"],	Dragon:~ mckaye	1.2					
["Other",1.7,"h"],							
["Bladder",0.26,"h"]							
1							

}}

# Data for Validation

- Validation of residence time calculation was based on ICRP published data
- Validation of effective dose calculation was based on an Excel spreadsheet
- Validation for dose factor and absorbed dose calculations were originally going to be based on OLINDA/EXM and IDAC but...

					RADAR Newborn		Q- Search Sheet
		ى • ص 🖬 🔟 🔍 🔍		RADAR Child01		Q~ Search Sheet	<u>≜+</u> :
			RADAR Child05		Q - Search Sheet		Cell Cell
	ຸ ບັ ເ ັ	RADAR Child10		Q - Search Sheet	· · · · · · · · · · · · · · · · · · ·	Cell Tromat v 2 v A V v Cell Format v Priter v Filter	Styles Format *      Check for
● ● ● E = 10 · 0 ₹	RADAR Ch		Q- Search Sheet		Sort &	Styles Format * Filter	
■ Insert Page Lavout Formulas Data Review View	🕼 RADAR Adult	Q - Search Sheet	minsert v ∑ v ∆⇔		Format * / * Filter		Y Z AA AB AC Tons Dynas Bysti EPCost Dans
Asial and a set of the	🖘 Wrap Text General 🔹		Delete • Z V · Sort &	tyles 📕 Format * 🥢 * Filter		Y Z AA AB AC AD AE	1 0.843 11.3 1.29 12.4 3.86 3 1.31546 3.86546 2.21546 2.53546 3.79546 7 9.735546 1.06566 4.27566 1.07567 1.24547
		🎾 🧭 🖦 Delete 🔹 😱 - Z T	is Format * 🖉 * Filter	Check for Updates	Z AA AB AC AD AE	Nume         Nume         Nume         Nume         Nume           1.21         22.9         1.78         32.9         1.45         9728           100.07         1.740.04         1.810.06         1.800.06         1.800.06         8.972.06           90.08         7.780.07         2.680.04         2.580.04         4.150.05         7.480.05	
	Formati	ing as Table Styles 🔳 Format * 🔗 * Filter	Check for Updates	Z AA AB AC AD AS	23.6         3.45         64.7         2.7         19990           1.052.64         5.872.07         5.400.07         1.012.64         4.552.06           4.148.67         1.372.06         8.200.09         1.448.64         4.022.06	9E+00 8.53E-06 2.69E-06 5.39E-07 7.12E-07 6.53E-06 108.06 1.43E-06 7.38E-07 2.49E-06 5.04E-06 7.89E-06 17E-06 4.11E-07 2.22E-07 1.53E-06 1.48E-05 8.11E-06 17E-06 4.11E-07 2.22E-07 1.53E-06 7.84E-05 8.01E-06	1         199046         4.74046         2.86046         4.28046         6.87046           4         4.41046         1.46046         9.66047         1.46046         2.86046           6         7.12047         2.660464         7.38046         1.38046         2.37046           1         7.12047         2.660464         7.38046         1.38046         2.37046
e Update To keep up-to-date with security updates, fixes, and improvements, choo	se Check for Updates.	Check for Updates	Z AA AB AC AD AE	Brum         Boyes         UK out         Umm         Influtt           1.89         31.4         7.83         103         4.16         33249           5.07         1.016.45         2.7816.47         2.5916.47         5.5816.47         2.5916.46           6.09         2.5416.07         1.3316.46         2.9216.09         4.6816.09         2.4416.46	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	NEGT         TARGEN         ALTERS         NUMBER         NUMBER         NUMBER           NEGRS         TORIGN         STARGEN         STARGEN         STARGEN         STARGEN           NEGRS         TORIGN         STARGEN         STARGEN         STARGEN         STARGEN           NEGRS         STARGEN         STARGEN         STARGEN         STARGEN         STARGEN           NEGRS         STARGEN         STARGEN         STARGEN         STARGEN         STARGEN           NEGRS         STARGEN         STARGEN         STARGEN         STARGEN         STARGEN         STARGEN           NEGRS         STARGEN         STARGE	
C D E P G H I J K L M	N 0 P Q R S T U V	W X Y Z AA AB AC AD AE	Bigmail         UBCoart         Visual         Software           28.4         12.4         160         79         56880           4.43E07         1.32E47         1.55E07         2.85E47         1.89E46           1.490.07         1.32E47         0.145E07         1.92E465         1.92E465	1+00 3.488.06 8.715.07 1.108.07 1.748.07 2.118.46 1607 3.548.07 1.755.07 8.078.07 2.048.06 2.515.46 1606 9.378.08 3.355.08 6.368.06 6.488.06 2.915.46	104864 3.44847 8.078.07 1.748.44 4.348.05 4.298.07 1.758.07 3.008.06 8.388.04 4.558.05 9.818.06 1.598.06 2.228.07 4.668.07 4.498.06	19507 9.76507 5.55507 1.44546 3.17546 8.27546 17507 3.21504 1.01504 1.54546 2.44546 8.27546 14507 6.54564 3.65546 4.96567 8.24547 7.54546	0.008-00 1.098.04 6.978.07 3.168.03 9.498.05     1.748.05 3.658.06 2.218.05 3.328.06 5.228.06     2.698.06 3.808.06 3.648.06 3.018.06 4.118.06
884-11986 Admuth Bank Banes GRCust BillCust BillCust BaneCus BillCust BillCust BaneCus BillCust BilleCust BillCust BillCust BillCust BillCust BillCust BillCu	Law         Lage         Mask         Oratin         Pearson         RailHas         Contends         Institute         Contends         For           046         3.012.06         1.7416.66         5.542.07         2.652.07         1.112.06         1.992.05         8.7016.07         3.702.07         8.4016.07           0.4         3.012.06         1.992.06         2.652.07         3.702.07         8.4016.07 <td>hikard<sup>1</sup> Jahn Tarm Bosso Reynil Differat Usam Usam 8.2016/97 3.16E-06 3.16E-06 4.99E-07 8.92E-06 1.19E-07 2.21E-07 1.40E-06 0.002007 1.01E-06 1.01E-06 1.01E-06 1.01E-06 1.01E-06 1.01E-06</td> <td>2.538.66 3.818.67 4.468.68 6.538.69 1.488.66 3.338.67 7.478.68 6.438.67 1.128.66 1.878.66 4.468.68 1.178.68 4.898.66 3.798.66 1.788.66</td> <td>8.07 1.598.07 7.548.04 3.148.06 1.098.04 3.878.04 6.07 6.348.07 1.598.07 4.758.07 1.048.06 2.748.06 8.07 1.548.07 7.798.04 2.788.06 5.858.06 2.918.06 7.09 0.0109.00 1.02000 2.788.06 5.858.06 2.918.06</td> <td>6.638.67 2.858.67 9.328.67 1.908.66 4.498.66 1.368.66 4.358.67 8.248.67 1.328.66 4.498.66 4.968.66 2.378.66 1.388.67 3.868.67 4.028.66</td> <td>90-00 4.750-07 2.690-07 1.520-05 4.510-05 (.520-09 (.540-09 90-00 4.750-07 2.690-07 1.520-05 4.510-05 (.590-06 140-07 2.850-06 9.510-07 1.590-06 2.590-06 8.950-06 140-07 2.850-06 9.510-07 1.590-06 8.950-06</td> <td>4 776.05 1 5486.06 3 487.05 4 4118.06 3 446.06     4 776.05 4 5586.06 3 4486.05 4 4118.06 3 446.06     1 418.06 2 708.07 3 448.07 4 278.04 0.008-08     4 477.02 5 078.07 3 448.07 4 278.04 0.008-08</td>	hikard <sup>1</sup> Jahn Tarm Bosso Reynil Differat Usam Usam 8.2016/97 3.16E-06 3.16E-06 4.99E-07 8.92E-06 1.19E-07 2.21E-07 1.40E-06 0.002007 1.01E-06 1.01E-06 1.01E-06 1.01E-06 1.01E-06 1.01E-06	2.538.66 3.818.67 4.468.68 6.538.69 1.488.66 3.338.67 7.478.68 6.438.67 1.128.66 1.878.66 4.468.68 1.178.68 4.898.66 3.798.66 1.788.66	8.07 1.598.07 7.548.04 3.148.06 1.098.04 3.878.04 6.07 6.348.07 1.598.07 4.758.07 1.048.06 2.748.06 8.07 1.548.07 7.798.04 2.788.06 5.858.06 2.918.06 7.09 0.0109.00 1.02000 2.788.06 5.858.06 2.918.06	6.638.67 2.858.67 9.328.67 1.908.66 4.498.66 1.368.66 4.358.67 8.248.67 1.328.66 4.498.66 4.968.66 2.378.66 1.388.67 3.868.67 4.028.66	90-00 4.750-07 2.690-07 1.520-05 4.510-05 (.520-09 (.540-09 90-00 4.750-07 2.690-07 1.520-05 4.510-05 (.590-06 140-07 2.850-06 9.510-07 1.590-06 2.590-06 8.950-06 140-07 2.850-06 9.510-07 1.590-06 8.950-06	4 776.05 1 5486.06 3 487.05 4 4118.06 3 446.06     4 776.05 4 5586.06 3 4486.05 4 4118.06 3 446.06     1 418.06 2 708.07 3 448.07 4 278.04 0.008-08     4 477.02 5 078.07 3 448.07 4 278.04 0.008-08
Ima 1.1500 3.91400 3.91400 4.0400 0.5100 1.1000 1.01400 1.1100 0.0100 0.1100 0.1100     Ima 4.000 3.91400 1.44044 1.0107 4.9160 4.5100 4.5100 4.2107 1.1100 0.0100 2.4404 2.01     ma 2.21040 5.90100 3.17047 4.99044 3.9107 3.00040 2.45004 3.91040 3.91207 3.21207 2.34     ma 2.21040 5.90100 3.17047 4.99044 4.9100 4.01004 4.64007 1.140464 5.97100 3.21207 3.21207 2.34     ma 2.210407 7.54010 4.34040 3.97040 1.44040 4.01004 4.64007 1.140464 5.97100 3.21207 3.21207	Col         Likewa         Likewa <thlikawa< th=""> <thlikawa< th=""></thlikawa<></thlikawa<>	Owner         Little         Little         Little         Little         Little           AUROF         Little         0.001607         2.00160         2.00160         1.00160           AUROF         8.001607         8.001607         8.001607         1.00160         1.00160           AUROF         8.001607         8.001607         8.001607         1.00160         1.00160           SAUROF         8.001607         8.001607         8.001607         1.001604         1.001604	9.078.09         1.918.09         2.058.06         6.868.04         1.978.06           4.438.07         1.868.07         2.388.07         6.468.07         1.398.06           8.438.08         3.838.09         1.538.06         3.488.04         1.878.06	847 3.94847 1.22847 5.54847 1.11844 2.75846 847 8.24847 2.38847 3.97847 7.02847 2.75846 868 3.54849 3.9594 2.5869 1.59847 2.58846	222647 1.00647 9.0166 2.09666 4.01666 1.42866 4.01647 9.01667 1.58666 4.01666 1.42866 4.01647 7.01867 1.58666 4.01866 1.198666 1.15766 1.00566 2.00566 3.27866	11508 2.31509 2.225.68 2.865.68 2.515.08 0.515.08 12508 2.085.09 1.745.08 1.995.08 1.445.08 6.385.08 085.07 1.745.08 8.855.07 1.195.08 2.375.08 8.275.08	5         5.87E47         3.82E43         4.42E45         7.30E47         1.88E46           6         3.48E47         6.42E45         3.86E42         6.01E47         6.81E47           6         3.49E45         8.70E47         5.38E47         1.82E43         7.14E45
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Number         State         State <t< td=""><td>2.385.07 2.481.07 3.095.09 1.221.07 1.355.06 2.385.07 2.441.04 3.018.07 6.018.07 1.396.06 6.175.07 1.368.47 1.258.07 4.248.07 1.418.06 1.518.06 8.081.07 4.258.07 4.248.07 1.418.06</td><td>B06         1.42E06         1.94E06         1.74E06         2.04E06         2.31E66           P-00         1.11E07         3.99E46         6.33E06         1.96E05         3.87E46           E07         6.64E07         2.54E47         4.11E07         8.94E07         3.87E46</td><td>134E46 1.58E46 1.01E46 1.22E46 4.52E46 1.12E44 8.87E47 1.08E46 9.62E47 3.31E46 9.78E47 4.27E47 5.09E47 9.83E47 4.48E46</td><td>Image         Image         <th< td=""><td>0.0002-00 1.00246 6.01247 7.12245 1.07242 0.1.70246 1.00245 1.00246 8.400246 2.00246</td></th<></td></t<>	2.385.07 2.481.07 3.095.09 1.221.07 1.355.06 2.385.07 2.441.04 3.018.07 6.018.07 1.396.06 6.175.07 1.368.47 1.258.07 4.248.07 1.418.06 1.518.06 8.081.07 4.258.07 4.248.07 1.418.06	B06         1.42E06         1.94E06         1.74E06         2.04E06         2.31E66           P-00         1.11E07         3.99E46         6.33E06         1.96E05         3.87E46           E07         6.64E07         2.54E47         4.11E07         8.94E07         3.87E46	134E46 1.58E46 1.01E46 1.22E46 4.52E46 1.12E44 8.87E47 1.08E46 9.62E47 3.31E46 9.78E47 4.27E47 5.09E47 9.83E47 4.48E46	Image         Image <th< td=""><td>0.0002-00 1.00246 6.01247 7.12245 1.07242 0.1.70246 1.00245 1.00246 8.400246 2.00246</td></th<>	0.0002-00 1.00246 6.01247 7.12245 1.07242 0.1.70246 1.00245 1.00246 8.400246 2.00246
	448         KHEM         XHEM	Mark         Altar         June         June <thjune< th="">         June         June         <th< td=""><td>9.978.07     1.148.04     1.158.06     1.248.04     1.488.05     1.488.04     1.488.04     1.488.05     1.488.05     1.488.05     1.488.05     1.488.05     1.488.05</td><td></td><td>Bar         Bar         Bar         Bar         Bar           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         &lt;</td><td>8666 3.33847 1.96647 7.335844 4.26845 7.64646 88-00 4.76867 2.54667 3.85846 2.34682 8.98846 98506 7.95586 8.43566 4.38546 8.93546 7.64566</td><td>1 4.443 11.3 1.29 12.4 3.49 0 0.002-00 0.012-00 0.002-00 0.002-00 0 0.002-00 0.012-00 0.002-00 0.002-00 0 0.002-00 0.002-00 0.002-00 0.002-00</td></th<></thjune<>	9.978.07     1.148.04     1.158.06     1.248.04     1.488.05     1.488.04     1.488.04     1.488.05     1.488.05     1.488.05     1.488.05     1.488.05     1.488.05		Bar         Bar         Bar         Bar         Bar           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         <	8666 3.33847 1.96647 7.335844 4.26845 7.64646 88-00 4.76867 2.54667 3.85846 2.34682 8.98846 98506 7.95586 8.43566 4.38546 8.93546 7.64566	1 4.443 11.3 1.29 12.4 3.49 0 0.002-00 0.012-00 0.002-00 0.002-00 0 0.002-00 0.012-00 0.002-00 0.002-00 0 0.002-00 0.002-00 0.002-00 0.002-00
Jame         8.54567         J.90507         5.4567         8.54567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         2.3567         3.3567	47 578647 6.86547 2.21856 1.84845 9.02847 7.212447 6.01547 6.01547 6.01547 47 5737447 7.82544 1.34656 4.74843 3.17847 1.33588 4.94647 4.94647 4.94647 4.94647 4.92144 1.31548 1.31547 4.32147 1.31548 1.31547 4.32147 4.97864 1.31548 1.31547 4.32147	6.01E47 7.75E47 7.91E47 8.07E47 8.76E47 9.49E47 1.01E48 1.29E44 490E47 2.47E47 0.08E-06 3.47E48 3.47E64 3.47E64 9.45E64 1.59E44 4.20E47 2.48E46 4.23E46 4.42E47 9.44E68 1.29E467 3.77E47 1.47E464	7.438.07 2.118.47 8.378.07 1.318.44 1.538.45 6.018.07 8.228.47 4.748.07 5.538.07 2.078.05 5.078.07 4.548.67 3.048.07 3.488.07 1.278.05	E42 3.35E48 1.23E48 6.97E46 0.01E-00 2.44E46 E408 1.44E40 3.84E48 6.44E48 1.00E-00 2.44E46 E408 3.94E46 5.31E49 2.44E48 3.83E48 2.73E46	148647 444648 136464 237648 45966 222647 9.69546 2.37645 1.31642 481646 4.18646 4.69566 2.431646 4.81646 4.02546	Nome         Novell         UPCet         Desc         Tubble           1.21         22.8         1.59         32.8         1.46         9724           021-00         0.0021-00         0.0021-00         0.0021-00         0.0021-00         0.0021-00           021-00         0.0021-00         0.0021-00         0.0021-00         0.0021-00         0.0021-00	0 0.000 00-0000 00-000 000 00-000 000 0000 000000
1986-54 6-545-07 4-915-07 7-915-07 1-381-54 1-315-66 6-322-07 1-1215-64 8-853-07 8-851-07 1-345 ma 1.846-64 1.326.66 3.456.67 3.5456-07 6.5556-07 5.2526-01 3.2760-7 4.5556-07 5.4556-07 4.171 ma 3.176-07 3.836-07 5.4556-07 4.171 ma 1.176-07 3.836-07 5.4556-07 4.171 ma 1.176-07 3.1716-07 3.1716-07 3.4556-0 3.1716-07 3.1716-07 3.1716-07 3.4556-0 3.1716-07 3.1716-07 3.4716-0 3.1716-07 3.1716-07 3.1716-07 3.4716-0 3.1716-07 3.1716-07 3.4716-0 3.1716-07 3.4716-0 3.1716-07 3.1716-07 3.1716-07 3.4716-0 3.1716-07 3.0716-07 3.171			Ib         Ib<		Byres         Byres         URCut         Umm         Inflict           28.4         3.46         64.7         2.7         19800           0.002+00         0.002+00         0.002+00         0.002+00         0.002+00	01+00 0.001+00 0.001+00 0.001+00 0.001+00 0.001+00	0.002-00 0.012-00 0.002-00 0.002-0     0.002-00 0.012-0     0.002-00 0.012-00 0.002-00     0.002-00 0.002-0     0.002-00 0.002-0     0.002-00 0.002-0     0.002-00 0.002-0     0.002-00 0.002-0
	Construct 1.00047 3.00047 3.00047 2.00047 3.00047 3.00047 3.00047 3.00047 3.00047     Construct 1.00047 3.00047 3.00047 3.00047     Construct 1.00047 3.00047 3.00047     Construct 1.00047 3.00047 3.00047     Construct 1.00047 3.00047     Construct 1.00047 3.00047     Construct 1.00047     Construct 1.0004     Construct 1.00047     Construct 1.0004     Construct 1.00047     Construct 1.0004		3.018.66         7.878.69         1.698.04         1.018.66         1.358.06           5.105.08         1.358.44         9.648.05         6.128.04         2.018.05           1.778.06         1.338.45         1.058.06         2.008.06         1.018.05	Terms         Specific         URCost         Users         Software           1.89         31.4         7.33         103         4.14         33200           0-00         0.001-00         0.001-00         0.001-00         0.001-00         0.001-00	0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00	Birde         O.001+W	0-200.0 00-201.8 00-200.0 00-200.0 0 0-200.0 00-201.8 00-200.0 00-201.0 00-200.0 0 0-200.0 00-201.8 00-200.0 00-201.0 00-200.0 0 0-200.0 00-201.8 00-200.0 00-201.0 00-200.0 0
#1         1.0160*         4.6350*         2.8764*         4.6050*         1.8564*         2.8664*         1.1764*         2.9860*         2.1164*         2.9860*         2.1	cd         9.874.08         6.6556.0         8.736.07         7.874.09         8.0966.0         6.176.07         6.336.07         6.336.07           cd         0.874.08         6.6556.0         8.736.07         8.936.07         6.176.07         6.157.06         6.157.06         7.156.07         7.157.07	3.16567 1.29547 2.53566 1.92208 4.04569 1.22566 8.09566 1.53566 3.79667 2.54567 0.085666 3.51568 3.39568 8.21566 4.09564 1.06564 1.79266 1.41766 1.29266 1.33568 1.33568 8.0627 1.00166 1.20266	Terms Speal (9Cost Unos Schol) 24.4 12.4 160 79 54400	000 0.001-00 0.002-000 0.002-000 0.0000000000	0.002+00 0.002+000 0.002+000 0.002+000 0.0000000000	02-00 0.002-000 0.0000000000	0-200.0 00-200.8 00-200.0 00-200.8 00-200.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	the sup time from better to the contrast and the contrast to the contrast to	hbart Spins Law Nyaw Nyawi Ukraw Lawa Gologo			00-303 00-100.0 00-100.0 00-300.0 000.0	08-00 0.031-00 0.001-00 0.001-00 0.001-00 0.001-00 0.020 05-00 0.051-00 0.001-000-00 0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-0.001-000-000	0+200.0         00+280.0         00+280.0         00+280.0         00+280.0         0           0+100.0         00+180.0         00+280.0         00+280.0         0           0+100.0         00+180.0         00+280.0         0         0           0+100.0         00+180.0         00+280.0         0         0           0+100.0         00+280.0         00+280.0         0         0
Im         Setting         Control         Control <thcontrol< th=""> <thcontrol< th=""> <thcontro< td=""><td>0         0.001-00         0.</td><td>000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-0000-0000-0000-0000-0000-0000-0000-0000</td><td>0.002-00 0.002-000 0.0000000000</td><td>000 0.001-00 0.002-00 0.002-00 0.001-00 0.002-00 0.001 0.001-00 0.002-00 0.002-00 0.001-00 0.001-00 0.001-00 0.002-00 0.001-00 0.001-00 0.001-00 0.001-00 0.001-00 0.001-00 0.001-00</td><td>0-200 0</td><td>02760 0.002760 0.002760 0.002760 0.002760 0.002760 02760 0.002760 0.002760 0.002760 0.002760 0.002760 02760 0.002760 0.002760 0.002760 0.002760 0.002760 02760 0.002760 0.002760 0.002760 0.002760 0.002760</td><td>0         0.002-00         0.002+00         0.002+00         0.002+00         0.002+00           0         0.002-00         0.002+00         0.002+00         0.002+00         0.002+00           0         0.002-00         0.002+00         0.002+00         0.002+00         0.002+00           0         0.002+00         0.002+00         0.002+00         0.002+00         0.002+00           0         0.002+00         0.002+00         0.002+00         0.002+00         0.002+00</td></thcontro<></thcontrol<></thcontrol<>	0         0.001-00         0.	000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-00 0000-0000-0000-0000-0000-0000-0000-0000-0000	0.002-00 0.002-000 0.0000000000	000 0.001-00 0.002-00 0.002-00 0.001-00 0.002-00 0.001 0.001-00 0.002-00 0.002-00 0.001-00 0.001-00 0.001-00 0.002-00 0.001-00 0.001-00 0.001-00 0.001-00 0.001-00 0.001-00 0.001-00	0-200 0	02760 0.002760 0.002760 0.002760 0.002760 0.002760 02760 0.002760 0.002760 0.002760 0.002760 0.002760 02760 0.002760 0.002760 0.002760 0.002760 0.002760 02760 0.002760 0.002760 0.002760 0.002760 0.002760	0         0.002-00         0.002+00         0.002+00         0.002+00         0.002+00           0         0.002-00         0.002+00         0.002+00         0.002+00         0.002+00           0         0.002-00         0.002+00         0.002+00         0.002+00         0.002+00           0         0.002+00         0.002+00         0.002+00         0.002+00         0.002+00           0         0.002+00         0.002+00         0.002+00         0.002+00         0.002+00
1000         00-100.0         00-100.0         000-100.0         00-100.0	-0 0.005-000-0.005-005-005-005-005-005-005-	0.481-00 0.002-00 0.4812-00 0.002-00 0.4921-00 0.002-00 0.002-00 0.4812-000000000000000000000000000000000000	0.002.00 0.001000 0.001000 0.00100 0.00100000000	000 0.001-00 0.002-00 0.002-00 0.001-00 0.002-000 0.002-0000 0.002-0000 0.002-0000 0.002-000000 0.0000000000	0.001-00         0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00         0.001-00	Birds         Output         Output </td <td>0 0.002 00 00 00 00 00 00 00 00 00 00 00 00</td>	0 0.002 00 00 00 00 00 00 00 00 00 00 00 00
M         M	C         CONTROL         CONT	Alterno         College         Selection         College	0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00	D-00 0.001-00 0.001-00 0.001-00 0.001-00 0.001-00 0-00 0.001-00 0.001-00 0.001-00 0.001-00 0.001-00 D-00 0.001-00 0.002-00 0.001-00 0.001-00 0.001-00 D-00 0.001-00 0.002-00 0.001-00 0.001-00	00-330.8 00-300.0 00-383.8 00-300.0 00-		Inna         Teynas         Teynas         Teynas           1         0.4443         11.3         1.39         12.4         3.48           0         0.002200         0.002200         0.002200         0.002200         0.002200
1846 6-150.0 00-153.8 69-150.0 (00-150.0 10-154.6 (00-150.0 00-154.8 69-150.0 (00-150.3 00-164.0 mm) 1846 6-150.0 (00-153.8 69-150.0 00-150.0 00-150.0 00-154.8 69-150.0 (00-156.3 00-156.3 00-156.8 mm) 1848 60-150.0 (00-153.8 69-156.8 (00-156.8 60-150.0 00-154.8 69-156.8 (00-156.3 00-156.3 00-156.8 mm)		0-104.6 00-100.0 00-103.6 00-100.0 00-1	00-000         00-000<	1-00 0.011-00 0.001-00 0.001-00 0.011-00 0.001-00 2-00 0.011-00 0.001-00 0.001-00 0.011-00 0.001-00 2-00 0.011-00 0.001-00 0.001-00 0.001-00	0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00           0.001-00         0.001-00         0.001-00         0.001-00	02-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 Nome North 20 Cast Divers Setting	0         0.002-00         0.
4.0 0.001-0000-0000		0.001-00 0.0001-00 0.001-0000-0000	8 582-00 0.002-00 8.002-00 0.002-00 0.002-00 8 582-00 0.002-00 8.002-00 0.002-00 0.002-00 8 582-00 0.002-00 8.002-00 0.002-00 0.002-00	00-100.0 00-100.0 00-100.0 00-100.0 00-100.0 00-100.0 00-1 00-100.0 00-100.0 00-100.0 00-100.0 00-100.0 00-1 00-100.0 00-100.0 00-00.0 00-00.0 00-100.0 00-0	Ryme Rynell Ulfvar Vann Sofiely 23.6 3.45 64.7 2.7 19990	02-00 0.002-00 0.002-00 0.002-00 0.002-00 4.002-00 02-00 0.002-00 0.002-00 0.002-00 4.002-00 02-00 0.002-00 0.002-00 0.002-00 4.002-00	6 0.002-00 0.002-00 0.002-00 0.002-00     6 0.002-00 0.002-00 0.002-00     6 0.002-00 0.002-00 0.002-00     6 0.002-00 0.002-00 0.002-00     6 0.002-00 0.002-00     6 0.002-00 0.002-00     7 0.002
1848 64-2000 00-2808 64-2000 00-2803 95-2848 64-2000 00-2888 64-2000 00-2803 95-2868 04 1848 64-2000 00-2858 64-2000 00-2803 95-2848 64-2000 00-2858 64-2000 00-2853 95-2868 444 1848 64-2000 00-2858 64-2000 00-2803 95-1848 64-2000 00-2858 49-2800 00-2853 95-2868 444	00 00000 000000 000000 00000 00000 00000	9-186.0 (e-200.0 00-280.8 99-286.0 00-280.8 99-286.8 (e-200.0 00-284.4 9-186.4 09-280.0 00-280.4 99-286.0 00-280.3 99-286.8 00-280.0 00-284.4 9-186.4 00-280.0 00-280.8 0-9-286.0 00-280.3 00-286.8 00-280.0 00-284.4 9-186.4 00-280.0 00-280.8 0-9-286.0 00-280.3 00-286.8 00-280.0 00-284.4 9-186.4 00-280.4 00-280.4 00-280.4 00-280.4 00-280.4 00-280.0 00-284.4 9-186.4 00-280	8.842-00         0.002-00         0.002-00         0.002-00           8.842-00         0.002-00         0.002-00         0.002-00           8.842-00         0.002-00         0.002-00         0.002-00           9.842-00         0.002-00         0.002-00         0.002-00	Term Send 10/or Term Scher	0.001-00 0.002-00 0.002-00 0.001-00 1.061-00 0.002-00 0.002-00 0.002-00 0.001-00 1.061-00 0.002-00 0.002-00 0.002-00 0.001-00 1.061-00 0.002-00 0.002-00 0.002-00 1.061-00	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Image: state         Image: state<
με         0.00120         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.0012000         0.00120000         0.00120000         0.00120000         0.00120000         0.00120000         0.00120000         0.00120000         0.001200000         0.0012000000000000000000000000000000000	0         0.001         0.012         0.0	0.402-00 0.002-00 0.402-00 0.002-00 0.402-00 0.002-00 0.402-00 0.002-00 0.402-000-0.402-0.402-000-0.402-000-0.402-000-0.402-0.402-000-0.402-000-0.402-000-0.402-0.402-000-0.402-000-0.402-000-0.402-0.402-000-0.402-000-0.402-000-0.402-0.402-000-0.402-000-0.402-000-0.402-0.402-000-0.402-000-0.402-000-0.402-0.402-000-0.402-000-0.402-000-0.402-0.402-000-0.402-000-0.402-000-0.402-000-0.402-000-0.402-000-0.402-000-0.402-000-000-00-000-000-000-000-000-000-0	0.002+00 0.002+00 0.002+00 0.002+00 0.005-00 Ryma Rynai DiCast Chem helkely	0-00 0.002-00 0.002-00 0.002-00 0.002-00 1.176.64 D-00 0.002-00 0.002-00 0.002-00 0.002-00 1.175.64 D-00 0.002-00 0.002-00 0.002-00 0.002-00 1.175.64	0.807-00 0.002-00 0.607-00 0.002-00 1.952.05 0.802-00 0.002-00 0.602-00 0.002-00 1.952.05 0.802-00 0.002-00 0.602-00 0.002-00 1.952.05	EF-00 0.001-00 0.001-00 0.001-00 0.001-00 4.010-00     EF-00 0.001-00 0.001-00 0.001-00 0.001-00     EF-00 0.001-00 0.001-00 0.001-00     EF-00 0.001-00 0.001-00     EF-00 0.001-00 0.001-00     EF-00 0.001-00     EF-00 0.001-00     EF-00	6 0.002 00 000 00 000 00 00 00 00 00 00 00 0
TON CONTRACTOR CONTRAC	law lago Made Over News Addres College College College	INTERN CONCEPT DEFECTS CAREND CAREND CAREND CAREND CONCEPT CAREND					CONTROL 0 1000 CONTROL 0000000 CONTROL 0000000     CONTROL 000000000000000000000000000000000000
au         2.35E41         CodE-00         0.00E-04         6.66F-06         0.00E-04         0.66F-06         0.00E-04         0.00E-06         0.00E-04         0.00E-06         0.0	0 0-2004 0-2004 0-2005	8.85-00 0.002-00 8.052-06 0.002-00 0.0022-06 0.002-00 5.258.07 1.845-00 0.002-09 0.0582-06 0.002-00 0.0020-06 0.002-00 5.258.07 1.845-00 0.002-09 0.0522-06 0.002-00 0.002-06 0.002-09 5.258.07	0.892-00         0.002-01         0.042-00         0.992-06         5.842-07           0.892-00         0.002-01         0.042-00         0.912-06         5.842-07           0.892-00         0.002-01         0.042-00         0.912-06         5.842-07	200 0.002-00 0.002-00 0.002-00 0.002-00 1.175.05 200 0.002-00 0.002-00 0.002-00 0.002-00 1.175.05 200 0.0037-00 0.002-00 0.002-00 0.002-00 1.175.05	0.001*00 0.002*00 0.002*00 0.001*00 1.552.05 0.002*00 0.002*00 0.002*00 1.352.05 0.002*00 0.002*00 0.002*00 1.352.05 0.002*00 0.002*00 0.002*00 1.352.05	Here         Office         Office <td>3         0.005-00         0.045-00         0.005-00         0.045-00         0.005-00         0.</td>	3         0.005-00         0.045-00         0.005-00         0.045-00         0.005-00         0.
Alter Control Co	CONTRACT ADDIEGNO CONTRACTO EXCLAND CONTRACT ADDIEGNO CONTRACTO E     CONTRACT ADDIEGNO CONTRACTO E CONTRACT ADDIEGNO CONTRACTO     CONTRACT ADDIEGNO CONTRACTO E CONTRACT     CONTRACT ADDIEGNO CONTRACT     C	0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.202-07 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.202.07 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.202.07 0.002-0000-000-002-000-000-000-000-000-0	0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0           0.01-0         0.01-0         0.01-0         0.01-0         0.01-0	5-00 0.005-00 0.005-00 0.005-00 0.005-00 1.17E46 5-00 0.002-00 0.002-00 0.002-00 0.002-00 1.17E46 5-00 0.002-00 0.002-00 0.002-00 0.002-00 1.17E46	0.002+00 0.002+00 0.002+00 0.002+00 1.362-06 0.002+00 0.002+00 0.002+00 1.672-06 0.002+00 0.002+00 0.002+00 0.002+00 2.142-06	NT-00         0.001-60 <t< td=""><td>0.002-00 0.001-00 2.001.02 0.001-00     0.002-00 0.001-00     0.002-00 0.001-00 0.002-00 1.572.03 0.002-00     0.002-00 0.001-00 0.002-00 1.572.03 0.002-00     0.002-00 0.001-00 0.001-00 0.001-00     0.002-00 0.001-00 0.001-00 0.001-00</td></t<>	0.002-00 0.001-00 2.001.02 0.001-00     0.002-00 0.001-00     0.002-00 0.001-00 0.002-00 1.572.03 0.002-00     0.002-00 0.001-00 0.002-00 1.572.03 0.002-00     0.002-00 0.001-00 0.001-00 0.001-00     0.002-00 0.001-00 0.001-00 0.001-00
ms         0.001-00	-00 0.001-0000000000	848-00 0.002-00 0.012-00 0.012-00 0.002-00 0.002-00 5.288.07 1.482-00 0.002-00 0.012-00 0.002-00 0.002-00 0.002-00 5.288.07 1.482-00 0.002-00 0.012-00 0.012-00 0.012-00 0.002-00 5.288.07	0.002-00         0.002-00	0-00 0.001-00 0.002-00 0.002-00 0.002-00 1.175.44 D-00 0.002-00 0.002-00 0.002-00 0.002-00 1.175.44 D-00 0.002-00 0.002-00 0.002-00 0.002-00 1.175.44 D-00 0.002-00 0.002-00 0.002-00 0.002-00 1.175.44	0.801+00 0.002-00 0.802+00 0.001+00 1.841.06 0.802+00 0.002-00 0.802+00 0.002+00 1.3612.06 0.802+00 0.002-00 0.802+00 0.002+00 1.3612.06 1.302.01 0.002-00 0.802+00 0.002+00 1.3612.06	0E+00         1.67E43         0.00E+00         0.00E+00         0.00E+00         4.00E+06           0E+00         0.00E+00         2.11E42         0.00E+00         0.00E+00         4.00E+06           0E+00         0.00E+00         0.00E+00         5.01E+04         0.00E+00         4.00E+06	Tenn Dyna Dynai UDCust Cunn 1 4.443 11.3 1.29 12.4 3.49
Ball 8 48-800 0 00-8334 89-100.0 00-8334 89-1084 00-800.0 00-8334 89-100.0 00-8334 89-108.0 00-8384 89-10	04:00         2.618:00         3.011-01         6.001-00         0.011-01         6.001-00         0.011-01 <t< td=""><td>8.88+00 0.002=00 8.895+00 0.002=00 0.002=00 8.002=00 0.002=00 5.288.07 8.882=00 0.002=00 8.892=00 0.002=00 0.002=00 0.002=00 5.288.07 8.882=00 0.002=00 0.892=00 0.002=00 0.002=00 5.282=07</td><td>4.027-00 0.002-00 0.027-00 0.027-00 4.542-07     4.042-00 0.002-00 0.002-00 0.021-00 4.542-07     4.042-00 0.002-00 0.0021-00 4.542-07     4.042-00 0.0021-00 4.042-07</td><td>2:00 0.012-00 0.002-00 0.002-00 0.012-00 1.312.05 2:00 0.012-00 0.002-00 0.002-00 0.012-00 1.372.65 3:00 0.012-00 0.002-00 0.002-00 0.012-00 1.372.65 3:002 0.012-00 0.002-00 0.002-00 0.012-00 1.372.65</td><td>0.805-60         0.002-80         0.805-00         0.902-60         1.982.65           1.168.61         0.002-80         0.685-00         0.902-60         1.982.65           0.802-60         1.982.66         0.902-60         1.982.65         0.902-60         1.982.65           0.802-60         0.902-60         0.902-60         1.982.65         0.802-60         0.902-60         1.982.65           0.802-60         0.002-60         3.002.61         0.902-60         1.882.65         0.802-60         0.902-60         1.882.65</td><td>0E-00 0.01E-00 0.01E-00 0.01E-00 2.59E42 4.01E46 0E-06 4.00E-06 4.01E40 4.01E47 4.01E46 4.01E46</td><td>\$ 1.31E46 3.80E66 2.21E46 2.53E66 3.79E40 9.33E48 1.90E66 4.27E46 1.07E67 1.28E47 0.000=00 1.00E61 5.38E46 1.22E66 1.58E4</td></t<>	8.88+00 0.002=00 8.895+00 0.002=00 0.002=00 8.002=00 0.002=00 5.288.07 8.882=00 0.002=00 8.892=00 0.002=00 0.002=00 0.002=00 5.288.07 8.882=00 0.002=00 0.892=00 0.002=00 0.002=00 5.282=07	4.027-00 0.002-00 0.027-00 0.027-00 4.542-07     4.042-00 0.002-00 0.002-00 0.021-00 4.542-07     4.042-00 0.002-00 0.0021-00 4.542-07     4.042-00 0.0021-00 4.042-07	2:00 0.012-00 0.002-00 0.002-00 0.012-00 1.312.05 2:00 0.012-00 0.002-00 0.002-00 0.012-00 1.372.65 3:00 0.012-00 0.002-00 0.002-00 0.012-00 1.372.65 3:002 0.012-00 0.002-00 0.002-00 0.012-00 1.372.65	0.805-60         0.002-80         0.805-00         0.902-60         1.982.65           1.168.61         0.002-80         0.685-00         0.902-60         1.982.65           0.802-60         1.982.66         0.902-60         1.982.65         0.902-60         1.982.65           0.802-60         0.902-60         0.902-60         1.982.65         0.802-60         0.902-60         1.982.65           0.802-60         0.002-60         3.002.61         0.902-60         1.882.65         0.802-60         0.902-60         1.882.65	0E-00 0.01E-00 0.01E-00 0.01E-00 2.59E42 4.01E46 0E-06 4.00E-06 4.01E40 4.01E47 4.01E46 4.01E46	\$ 1.31E46 3.80E66 2.21E46 2.53E66 3.79E40 9.33E48 1.90E66 4.27E46 1.07E67 1.28E47 0.000=00 1.00E61 5.38E46 1.22E66 1.58E4
imm         0.001-00 <th< td=""><td>0         0.0000000         0.0000000         0.000000000         0.0000000         0.00000000         0.00000000         0.0000000000000         0.00000000000000000000000000000000000</td><td>Altree         Course         Sature         Course         Course&lt;</td><td>1012-00 0.002-00 0.002-00 0.012-00 0.012-00     1012-00 0.002-00 0.012-00 0.012-00     1012-00 0.002-00     1012-00 0.012-00     1012</td><td>Image: State of the s</td><td></td><td>Term         World         UR of the control of the contro of the control of the contro of the control of the contr</td><td>1.31149         3.0149         2.21149         2.31494         3.7149           9.31628         1.006564         2.21164         1.71674         1.2114           9.000749         1.006564         2.31494         1.20167         1.2114           9.000749         1.00164         3.31434         1.22164         1.31144           9.231245         2.34164         1.74164         3.70164         3.71144           9.231245         3.41646         1.74164         3.70164         3.71144           9.231245         3.41646         4.71147         3.22646         3.70164           9.231245         3.41646         4.71147         3.22646         3.70164           9.191244         4.711647         5.21264         3.70164         3.70164</td></th<>	0         0.0000000         0.0000000         0.000000000         0.0000000         0.00000000         0.00000000         0.0000000000000         0.00000000000000000000000000000000000	Altree         Course         Sature         Course         Course<	1012-00 0.002-00 0.002-00 0.012-00 0.012-00     1012-00 0.002-00 0.012-00 0.012-00     1012-00 0.002-00     1012-00 0.012-00     1012	Image: State of the s		Term         World         UR of the control of the contro of the control of the contro of the control of the contr	1.31149         3.0149         2.21149         2.31494         3.7149           9.31628         1.006564         2.21164         1.71674         1.2114           9.000749         1.006564         2.31494         1.20167         1.2114           9.000749         1.00164         3.31434         1.22164         1.31144           9.231245         2.34164         1.74164         3.70164         3.71144           9.231245         3.41646         1.74164         3.70164         3.71144           9.231245         3.41646         4.71147         3.22646         3.70164           9.231245         3.41646         4.71147         3.22646         3.70164           9.191244         4.711647         5.21264         3.70164         3.70164
Bit         0=100.0	-0 0.002-000-000-000-000-000-000-000-000-00	0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 0.002-00 5.202.07 0.002-00 2.112-04 0.002-00 0.002-00 0.002-00 0.002-00 5.202.07 0.002-00 0.002-00 5.222.04 0.002-00 0.002-00 0.002-00 5.202.07 0.002-00 0.002-00 5.222.04 0.002-00 0.002-00 0.002-00 5.202.07		8-00 0.001-00 0.001-00 0.000-00 9.128.03 1.178.04 8-06 1.178.04 1.178.04 1.328.07 1.178.04 1.178.04	21.6 3.41 64.7 2.5 10000 1.018.64 5.878.87 5.698.07 1.818.64 2.698.06 4.148.07 1.578.65 2.080.09 1.448.69 2.080.06 5.188.64 1.478.65 2.080.09 1.418.69 2.080.06	121         23.2         146         752           141         154         25.4         154         973           145         154         25.4         154         154         154           145         154         25.4         154         154         154         154           145         154         25.4         25.4         155         156	1         711-00         5.75600         2.001000         5.201000         5.201000           4         411-860         1.001000         9.001107         3.01000           4         7.22247         2.0001007         7.301040         1.301000         3.271040           4         7.32247         2.0001007         7.301040         1.301000         3.271040           4         7.31248         1.301040         3.701000         4.321040         3.911000         4.321040           5         3.31427         1.241040         7.311248         3.701000         4.321040           5         5.34127         1.241040         7.311248         1.0010000         4.321040           5         8.321426         7.51260         1.801426         0.2012000         1.801420
An 0.010-0 0.010-0 0.000-000-	CONTROL DEFECT CATEGO CONTROL SAFE-CC CONTROL DEFECT CATEGO CONTROL DE CONTROL DEFECT CATEGO CONTROL SAFE-CC CONTROL DEFECT CATEGO CONTROL DE CONTROL DEFECT CATEGO CONTROL SAFE-CC CONTROL DEFECT CATEGO CONTROL DE CONTROL DE	0.001-00 0.001-0000000000	6.848.07 6.848.07 7.588.08 6.848.07 6.848.07	1.89         31.4         7.93         103         4.16         33200           8.07         1.018.06         2.308.07         2.308.07         5.548.07         1.348.66           8.09         2.548.07         1.338.06         2.928.09         4.688.09         1.278.66	9.18E47 3.48E47 1.36E06 3.19E46 2.37E06 1.96E47 8.43E48 1.01E03 9.88E46 2.53E06 2.83E47 1.25E49 4.74E06 1.58E46 2.85E06	98246 5.731247 2.54247 8.381246 2.44245 4.99246 98267 1.56264 9.87267 1.96246 3.65264 3.95246 18266 7.131847 3.56267 6.82246 1.52245 4.34266	11100         10000         11100         12000         10000           10000         10000         11000         12000         10000           10000         10000         11000         12000         10000           10000         10000         11000         12000         10000           10000         10000         11000         12000         10000           10000         10000         10000         10000         10000           10000         10000         10000         10000         10000           10000         10000         10000         10000         10000         10000           100000         10000         10000 </td
Invest         \$28607<	407         5.28E47         5.28E47         5.28E47         5.28E47         5.28E47         5.28E47           Mar         Imp         Mash         Oranin         Parent         Kel Mas         Confined         Confin	528E07 528E07 528E07 528E07 528E07 528E07 528E07 528E07 bitsdy tylen tota Bosen Total EPCort Union Totlety	28.4         12.4         160         79         54889           4.43E.07         1.32E.07         1.55E.07         2.55E.07         1.23E.06           1.459E.07         1.14E.04         9.16E.10         1.59E.09         7.91E.07	D-00 3.44E64 8.71E47 1.10E47 1.74E47 9.34E47 8.07 8.448.07 1.35E47 8.078.07 2.048.04 1.34E46 8.06 9.37E49 3.33E49 6.95E06 6.44E46 1.74E46 9.07 1.05E47 3.33E49 6.95E06 6.44E46 1.74E46	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	98.07 9.768.07 5.558.07 1.448.06 3.178.06 4.278.06 178.07 2.218.06 1.518.06 1.548.06 2.548.06 4.278.06 148.07 6.548.06 1.658.06 4.908.07 8.248.07 3.648.06	\$ 1.74E46 3.65E66 2.21E46 3.32E66 5.22E46 4 2.99E46 3.30E66 3.64E46 3.01E66 4.11E40 4 4.99E46 5.54E66 4.39E46 4.42E66 5.38E40
Number         Statistical         Littere         4.666.07         2.066.06         3.676.07         2.066.06         4.486.07         1.706.06         2.666.06         5.207           nm         LITE/04         1.990.05         3.990.04         6.700.00         9.817.06         1.706.06         1.006.06         3.201.04         4.340.04 <td>ee 3.41Ee6 1.74Ee6 8.54Ee7 3.49Ee7 7.11Ee6 1.94Ee8 8.76Ee7 8.78Ee7 8.78Ee7 249 1.758Ee8 5.76Ee8 1.00267 8.34E20 1.378Ee8 6.558Ee7 5.958Ee7 9.958Ee7 9.558Ee7 2.535Ee7 1.74Ee6 3.54Ee7 4.47Ee8 2.52Ee7 4.341Ee7 3.01Ee7 3.01Ee7</td> <td>8.708.07 3.148.66 3.148.66 4.938.07 8.928.68 1.198.07 2.218.07 9.458.07 9.988.07 1.518.48 1.485.16 1.818.07 1.118.68 4.4538.10 8.558.10 6.488.07 9.018.07 4.118.47 0.981.06 2.218.06 3.2868.07 2.22168 5.3578.06 1.5708.07</td> <td>10.         10.         10.         10.         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00</td> <td>Image         A.1         Table         G.1         State           1</td> <td>Her         Add         Add         Her         Her           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         &lt;</td> <td></td> <td></td>	ee 3.41Ee6 1.74Ee6 8.54Ee7 3.49Ee7 7.11Ee6 1.94Ee8 8.76Ee7 8.78Ee7 8.78Ee7 249 1.758Ee8 5.76Ee8 1.00267 8.34E20 1.378Ee8 6.558Ee7 5.958Ee7 9.958Ee7 9.558Ee7 2.535Ee7 1.74Ee6 3.54Ee7 4.47Ee8 2.52Ee7 4.341Ee7 3.01Ee7 3.01Ee7	8.708.07 3.148.66 3.148.66 4.938.07 8.928.68 1.198.07 2.218.07 9.458.07 9.988.07 1.518.48 1.485.16 1.818.07 1.118.68 4.4538.10 8.558.10 6.488.07 9.018.07 4.118.47 0.981.06 2.218.06 3.2868.07 2.22168 5.3578.06 1.5708.07	10.         10.         10.         10.         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00         10.00         10.00         10.00           10.00	Image         A.1         Table         G.1         State           1	Her         Add         Add         Her         Her           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         <		
um         1.17640         1.991641         3.991644         4.79169         8.811.60         7.78169         1.88168         2.11164         4.98164         4.481           M         4.4664         3.99169         4.4616         3.01167         3.1816         5.1816         4.38164         2.01167         3.0666         2.01167         3.0666         2.01167         3.0666         2.01167         3.0666         2.01167         3.0666         2.01167         3.0666         2.01167         3.0666         3.01167	40         TABLE         TA	Natur         Links         Links <th< td=""><td>4438.07 1.0486.07 2.388.07 5.468.07 1.118.05 8.428.09 3.038.09 1.538.06 3.488.06 1.198.05 5.398.06 4.288.07 5.998.08 1.228.07 1.178.05</td><td>807 3.948407 1.22847 5.548407 1.11846 1.54846 8407 8.248407 2.348447 3.97847 7.928407 1.54846 8408 3.44844 1.349448 8.288438 1.598407 1.41846 8408 3.44844 1.349448 1.23744 3.049447</td><td>1 228.07 1 498.07 6 338.06 2 446.46 2 438.06 1 428.46 4 431.67 7 938.07 1 338.06 2 458.06 1 148.06 1 158.06 1 204.06 2 2045.06 1 348.06 1 538.06 1 018.06 2 238.06 2 238.06 1 348.06 1 538.06 1 018.06 3 228.06 2 379.06 1 128.06 3 377.07 1 018.06 9 822.16 1 1352.06</td><td>11606 2.538.66 2.228.66 2.648.66 2.538.66 4.118.66 128.66 2.048.66 1.748.66 1.918.66 1.448.96 2.238.66 108.67 1.748.64 8.858.67 1.198.66 2.738.66 4.278.66</td><td>Sa72a7 4.43264 4.42245 7.30267 1.48246     Sa72a7 4.43264 1.48248 4.01867 4.43167     Sa72a7 4.4449     Sa72a7 4.4245     Sa72a7 4.445     Sa72a7 4.445</td></th<>	4438.07 1.0486.07 2.388.07 5.468.07 1.118.05 8.428.09 3.038.09 1.538.06 3.488.06 1.198.05 5.398.06 4.288.07 5.998.08 1.228.07 1.178.05	807 3.948407 1.22847 5.548407 1.11846 1.54846 8407 8.248407 2.348447 3.97847 7.928407 1.54846 8408 3.44844 1.349448 8.288438 1.598407 1.41846 8408 3.44844 1.349448 1.23744 3.049447	1 228.07 1 498.07 6 338.06 2 446.46 2 438.06 1 428.46 4 431.67 7 938.07 1 338.06 2 458.06 1 148.06 1 158.06 1 204.06 2 2045.06 1 348.06 1 538.06 1 018.06 2 238.06 2 238.06 1 348.06 1 538.06 1 018.06 3 228.06 2 379.06 1 128.06 3 377.07 1 018.06 9 822.16 1 1352.06	11606 2.538.66 2.228.66 2.648.66 2.538.66 4.118.66 128.66 2.048.66 1.748.66 1.918.66 1.448.96 2.238.66 108.67 1.748.64 8.858.67 1.198.66 2.738.66 4.278.66	Sa72a7 4.43264 4.42245 7.30267 1.48246     Sa72a7 4.43264 1.48248 4.01867 4.43167     Sa72a7 4.4449     Sa72a7 4.4245     Sa72a7 4.445     Sa72a7 4.445
me         trues         strues	044         1.11846         8.21867         8.07667         8.07667         8.07664         8.11867         3.14867         3.14867         3.14867           044         1.31866         1.71867         5.44164         1.00664         8.01077         3.14867         3.14877         3.14867         3.14867         3.14877         3.14867         3.14877	3.146.07         5.466.08         4.316.00         2.566.07         4.366.07	2.388.07 2.948.48 3.018.07 6.018.07 1.118.06 6.178.07 1.348.47 1.758.07 4.248.07 1.128.06 2.338.06 8.888.07 4.298.08 8.588.08 9.968.07 0.029.07 1.188.08 1.188.09 9.968.07	1900 1.115.07 1.995.09 1.745.09 2.005.09 1.352.45 1900 1.115.07 1.995.04 6.335.06 1.065.05 1.965.05 1.07 6.485.07 1.345.07 1.115.06 1.355.06 1.475.06 1.07 8.485.07 1.345.07 1.115.06 1.355.06 1.475.06	1.12244 8.97247 1.08264 9.42247 1.35246 8.58267 4.27247 5.00267 9.83267 2.33246 7.51244 3.47248 1.00265 0.002-00 1.90245	ME60 2.64E67 1.34E67 1.94E46 0.00E-00 3.44E66 ME67 2.54E64 1.94E66 3.31E67 4.94E67 3.95E66 4E67 1.54E65 1.34E63 1.54E67 2.54E67 4.43E65	8 7.122-06 8.078.06 9.822-06 7.438.06 9.848.06
	Lee L3NE46 13NE46 52NE47 317E47 23NE46 648447 30164 33NE47 34NE47 47 L3NE46 82DE47 34NE47 12NE46 83NE47 35NE47 33NE47 33NE47 33NE47 33NE47 33NE47 33NE47 33NE47 33NE47 33NE47 34NE47 34N		5.41E09         1.15509         1.25609         9.18E47           5.41E09         1.42E49         4.58E06         1.34E46         1.34E46           6.006.07         1.18E47         1.55E07         4.58E04         1.34E46           7.43E47         7.11E47         8.37E47         1.31E46         1.44E46	8.07 9.018.07 1.098.06 6.008.07 7.598.07 1.598.06 206 6.998.07 6.498.07 6.198.07 3.078.07 8.558.07 8.07 8.048.07 2.498.07 2.458.07 6.558.07 1.588.06	0.1800         3.27480         JONGO         8.3180         1.98186           2.37840         3.87486         JONGO         9.3180         1.98186           2.37846         3.87486         JONGO         9.3180         1.98186           2.37846         3.87486         JONGO         9.3180         1.98186           2.37846         3.87486         JONGO         9.3180         1.98186           3.37846         3.92186         3.48187         3.22186         3.31846         2.81386           1.481847         5.481868         8.54826         3.33186         2.81386         2.81386           2.222847         9.98168         2.79166         1.44182         2.83266         2.83386	98809 3.338.07 1.968.07 1.348.04 4.268.06 2.648.06 92700 4.598.07 2.548.07 3.558.05 1.248.03 4.998.06 188806 3.958.06 4.438.06 3.648.06 4.998.06 3.648.06	2
			6.01E07 8.22E47 6.74E07 5.53E47 1.11E46 5.07E07 4.54E47 3.04E07 3.44E47 5.84E07 3.64E47 1.38E47 1.90E47 3.94E47 1.12E46		222E47 9.89E48 2.77E45 1.14E40 2.85E46 221E44 2.51E46 2.21E46 2.85E46 2.05E46		▣ ᅖ
No.         No. <td></td> <td>ATEG         ATEG         <td< td=""><td>Ib         Ib         Ib         Ib         Ib           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         10</td><td>2-00 1.08E67 3.83E40 1.57E45 8.76E64 1.98E44 2.06 1.56E64 1.38E46 1.448.06 1.56E66 1.38E44</td><td></td><td>Ⅲ + 60%</td><td></td></td<></td>		ATEG         ATEG <td< td=""><td>Ib         Ib         Ib         Ib         Ib           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         10</td><td>2-00 1.08E67 3.83E40 1.57E45 8.76E64 1.98E44 2.06 1.56E64 1.38E46 1.448.06 1.56E66 1.38E44</td><td></td><td>Ⅲ + 60%</td><td></td></td<>	Ib         Ib         Ib         Ib         Ib           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         100         100         100           100         100         10	2-00 1.08E67 3.83E40 1.57E45 8.76E64 1.98E44 2.06 1.56E64 1.38E46 1.448.06 1.56E66 1.38E44		Ⅲ + 60%	
m         like         li	407 4.481247 1.2461248 8.871247 3.471248 4.421247 4.451247 3.94514	3.946-07         3.116-68         3.976-08         2.716-78         3.276-07         3.446-07         9.026-07           3.946-07         3.9716-07	5.100.60 1.312.40 9.642.66 1.212.64 1.312.46 1.042.66 1.642.66 9.312.07 1.312.66 9.142.47		四 - + 60%	+ 60%	
m. Latter, associet 325648 8,54827 3,47646 5,77646 3,77647 3,57647 1,57564 7,448248 8,74438 5,227 nms 9,65647 6,48647 5,78647 9,17647 9,41649 5,75647 7,59647 8,86647 7,28647 9,33547 9,022	er 2.mer/ 3.me.en 1.03166 3.551645 3.17847 1.68566 3.79847 3.79847 3.79847 167 9.42247 3.75167 7.60247 1.64246 1.04866 8.39847 7.54647 7.59167 3.58167	a.meer assest assest assisted 351208 7.351209 8.21209 1.222041 1.08206 7.550207 9.822697 7.66207 8.232497 8.232697 8.072607 1.08266 7.66207		四 + 60%	00%		
			町				
	Electron Small Photon Factors +						

	E LΩ * Ű ₹						🖾 F-18					Q~ Search Sheet
	Page Layout Formulas Data	Review View								21		<u>_</u> +
, 🔏 Cut [] Copy ▼	Calibri (Body) 🔹 12 🔹 🗛 🗛	= = *	🖃 Wrap Text			Normal Bad	Good Neutral	Calculation	<b>€</b> ••• <b>€</b> ו <b>∷</b> ••	∑ AutoSum * A Fill * Z ♥ *		
S Format		5 5 5 <b>6 6</b>	🐽 Merge & Center 🔻	\$ * % > 50	Conditional Format	Check Cell Explana	ory T Input Linked C	Note	Insert Delete Format	Clear * Filter		
	keep up-to-date with security updates, fixes,				romating as table					•		Check fe
	✓ f <sub>x</sub>   3.95274107438089E-07											
		L M N O P	Q R S T U	v w x y z	AA AB AC AD AB	AF AG AH AL	AI AK AL AM AN A	AP AQ AR AS	AT AU AN AN AX AY	AZ BA 10 BC 10 BC	07 DG 081 01 04 06. 06. 07	1 BN BO BP BQ BA BS B
HOURCES Advanta Basis Namego 1613 D	E         F         G         H         I         F         K           Branch         GRCost         GUCost         SICost         StrongCost         GUCost         BlanchCost	let Wall Killings Drur Langs Munde O 200 200 200 1010 1000 20000	adis Passar RelNas Corthad Indikad ( 873 943 1138 68 68	erikaary Yadikary Spins Index Dynas 4000 1000 100 100 10.0 20.0	Donal LECast Status Datikaly Reserve 202 202 101 19 12700 61	KEDAKOT         Sq.3ver         New Earls           643         Maargy         adv	TABGETS Latro KAPA KEPA KEPA adv adv adv adv adv adv	IC8714 IC8734 IC8734	CEPTE	KRPHO KRPHO KRPHO bg qualital maskelar wighting	1 10 10 11 10 10 10 10 10 10 10 10 10 10	
113 6666666 4.33E- 103 6666666 4.33E- 103 6666666 3.59E-		19236 AAAAAAA 3.37236 1.74236 AAAAAAA 4 178236 AAAAAAA 1.75238 9.78236 AAAAAAA 4 185236 AAAAAAA 5.85237 1.74236 AAAAAAA 4				44 14.1 1.10E.02 1.44 47 1420 4444444 1.44 46 251 9.51E.43 1.44	Resin Addated Annual 7,892-01 3,120 Brain Addated Annual 7,892-01 3,120 Brain 8,512-01 1,292-03 4,252-04 1,021			75 1.198.42 8.002306 925 3.128.90 0.01 187 8.218.42 9.12		
142 8888888 E.84E. 147 8888888 7.54E.		LIZEAT AAAAAAA EXKENS EEKENT AAAAAAA A LAXEAN AAAAAAA EANENT ENIEM AAAAAAA A	****** ******* ******* ******* ******* ******		AAAAAAA 3.17E.47 AAAAAAA 1.511 AAAAAAA 3.79E.46 AAAAAAA 1.631				0 0.002+00	825 5.127-96 9.64 84 8.318-00 8.12 6 1.286-82 6.0002396 102 1.596-82 9.12		
100         2444444         C400           10         244444         7.547           10         244444         7.547           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           10         244444         7.317           110         244444         7.317           111         244444         7.317           112         244444         7.317           113         244444         7.317	29 ALARAM PRESS ALARAM FALLER ALARAM PRESS ALARAM FALLER I	34E47 AAAAAAA 8.38E47 1.48E47 AAAAAAA A .74E46 AAAAAAA 1.11E46 8.21E47 AAAAAAA A	****** ****** ******* ******* ****** ******	111111 FFFFFFF ANDERS 111111 FFFFFFF	AAAAAAA 1.00E.07 AAAAAAA 1.533	46 167 1.34E-02 1.44 46 677 1.29E-02 1.44 46 159 1.10E-02 1.44	Latter 1 20100 1 100000 1 100000 1 1000000	120E-02 1.20E-02 1.20E-02 1.20E-02	0 1.208.42 1.208.42 0.0027 0 1.308.42 0.000.00 0	12 1.98.40 0.12 79 1.98.42 0.00200 1.28.42 0.00200 79 1.08.42 0.12		
116 ####### 2.11E-	29 202020 202000 202020 202000 2020000 20200000 202000000	131E47 AAAAAAA 1.31E46 1.31E47 AAAAAAA A 131E42 AAAAAAA 1.39E46 3.49E46 AAAAAAA A	*****	111111 FFFFFFF AND FFFFFFF	AAAAAAA 1,091.06 AAAAAAA 1,091 AAAAAAA 3,031.08 AAAAAAA 7,091		TELEWAR 1.145.02 AAAAAAA 3.225.06 AAAA Boart Wall AAAAAAA AAAAAAA AAAAAAA 1,471	0.002-90	0 1,198.42 1,198.42 0.8027 0 0.802.98			
100 000000 CT4E-	and an and a second and a second second and a second secon	SUE-37 AAAAAAAA 2.00E-06 3.00E-07 AAAAAAAA A	*****	*****		201         1.04.02         1.44           27         314         2284         1.44           46         259         1.045.02         1.44           47         1016         2283         1.44           47         1016         2283         1.44           47         1000         2284         1.44           46         21000         0.964.03         1.44           46         211         2.216.20         1.48           46         471         1.226.21         1.49           46         9.43         1.234.22         1.48           46         9.43         1.234.22         1.49           46         9.43         1.234.22         1.49           46         9.43         1.234.22         1.49	Col. Num. 1	65         1.028.00         1.028.00           1         1.028.00         1.029.01           62         1.129.01         0.029.01           63         1.129.02         0.020.01           64         1.129.02         0.020.01           64         1.229.02         0.020.00           64         1.229.02         0.020.00           64         1.229.02         0.020.00           64         1.229.02         0.020.00           64         1.229.02         0.020.00           64         1.239.02         0.020.00           64         1.239.02         0.020.00           64         1.239.02         0.020.00	0 1.028-02 1.028-02 0.0027 0.06 1.028-01 0.008-00 0 0.13 1.028-01 0.008-00 0	1         1.02 ± 0.00000           101         1.02 ± 0.00000           102         1.02 ± 0.00000           102         1.02 ± 0.00000           02         1.02 ± 0.00000           03         1.02 ± 0.00000           04         1.02 ± 0.00000           05         1.02 ± 0.00000           101         1.02 ± 0.0000           102         9.02 ± 0.0000           103         1.02 ± 0.0000		
2000 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF		412-47 AAAAAAA 5.702-97 6.812-97 AAAAAAA A				45 21000 9.98E-03 1.81 45 8.71 1.37E-02 1.81	Nanis 0.91243 AAAAAA 2.77245 9.211 Orania 1.77243 3.43243 2.75243 1.141	15 N.982-02 9.982-02 10 1.772-02 9.000-00	0 3.982-07 5.982-07 0.827	7% 9.982.42 A08236		
113 FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	38 311111 (1111)	.37E-86 AAAAAAA 2.53E-86 1.33E-86 AAAAAAA A .35E-87 AAAAAAA 6.35E-87 8.35E-87 AAAAAAA A	******* ******* ******* ******* *******		1.511 1.211 (1.111-11) (1.111-11) 1.111-11-11 (1.111-11) 1.211	44 943 1238.42 1.44 46 1120 9.678.43 1.44	Patersan 1.235-02 AAAAAAAA 3.425-05 1.141 Bod Marry 9.675-03 1.165-03 1.165-03 1.161	1	0 1.258.42 1.258.42 0.8627	778 1.258-42 0.0002506 1.12 9.670-00 0.12		
110 PRODUCT 1.20E-	45 аллала бобола дабово дляла бобола длябов дляла 5 47 аллала бобола длябово дляла бобола длябов дляла 5	1952:47 AAAAAAA 4.742:47 6.642:47 AAAAAAA 4 1972:47 AAAAAAA 3.172:47 3.442:47 AAAAAAA 4	******* ******* ******** ******** ******		AAAAAAA 3.542.07 AAAAAA 1.542 AAAAAAA 3.332.07 AAAAAAA 1.882	-05         1125         9.67E-03         1.89           -06         126         1.29E-02         1.89           -06         3016         7.69E-03         1.89	Outragente 1.23E-02 3.59E-04 1.28E-04 1.24E Nets 7.63E-03 AAAAAAA 7.64E-03 7.64E	H 1.308.42 0.000.58 H 1.588.05 7.688.43	0.43 1.208.42 0.008.40 0	101 120E-02 0.04		
110 ####### 1.91E- 102 ####### 1.66E-		11E-05 AAAAAAA 5.54E-07 1.14E-05 AAAAAAA A .59E-00 AAAAAAA 3.20E-00 1.03E-00 AAAAAAA A	****** ******* ******* ******* ******* ******	****** ******* ******* ******* ****** ******	AAAAAAA 2,531,46 AAAAAAA 1,371	46 183 1.03E-02 1.49 46 39.1 1.08E-02 1.49 46 28.9 1.13E-02 1.49	Operation         1.210-02         1.200-02	1.002.42 1.002.42 1.002.42 0.002.98	0 1.082-02 0.0027 0 1.082-02 0.002 00	841 1.200.02 9.44 141 7.400.00 0.44 749 1.400.42 0.000200 0 1.000.42 0		
1. 4444444 L.11E-						46         28.9 (1.13E.02)         1.49           46         28.7 (9.84E.03)         1.49           46         47.6 (1.21E.01)         1.49	Thyses 1.13E.02 ######## 1.13E.04 1.040 Thyroid 0.84E.03 2.05E.04 4.92E.04 3.040 Totaxy 80 1.31E.01 7.85E.03 6.54E.03 5.231		0.00         1.200.00         0.000.00 <th< td=""><td>100-42         0.00208           0         1.00-62         0           0         1.00-62         0           10         1.00-62         0.00208           10         9.967.05         0.06           10         1.02-62         0.06           10         1.02-62         0.06</td><td></td><td></td></th<>	100-42         0.00208           0         1.00-62         0           0         1.00-62         0           10         1.00-62         0.00208           10         9.967.05         0.06           10         1.02-62         0.06           10         1.02-62         0.06		
124 ####### 4,63E- 19 ####### 8,31E- 1918 ###### 1,31E-		134E-00 AAAAAAA 2.70E-07 5.81E-00 AAAAAAA A				45 73700 1.12E-02 1.00	Thrm 1.82E42 1.09E43 5.84E45 1.681	0 Long 1012-02	0.06 1.512-01 0.002-00 0 0.06 1.522-02 1.822-02 0.8627	142 1.512-00 0.04 778 1.322-02 0.0002306 0.020025		
n., /////		******			444444							
Advands Brain Rawy) Advands Brain	Broats GB Cost LLI Cost II Cost NumCost LLI Cost BraveCos B Broats	let Wall Kidneys Liver Long Muscle O hast Wall Kidneys Liver Longs Muscle O	Varian Paurean Red Mar. Cortilianti Trabilianti i Varian Paurean Red Marcow	ardiom V Traislion V Igleon Toxico Thyses Releve Toxico Thyses Analysis constants and	Dervid UB Cost Discus Tuillody Bonai Dervid Ubena Tuial Baly	aker BEEARCHT Adultum Messikute Manegy mite Mat 20.3 BRERRAR	TARCET         Lptm         Caller         Caller <td>00 Advanta 142</td> <td>inde insers Gillerer Hillerer Hiller Brouter</td> <td>er Eld Case Basel'un Her Nat Alderyn Liner Kongs</td> <td>Mask frame Passes kalifas Corikasi Tabihasi Corikasi Tabi</td> <td>ny ipina fana Tayana Tayani Circus Cuma fadi</td>	00 Advanta 142	inde insers Gillerer Hillerer Hiller Brouter	er Eld Case Basel'un Her Nat Alderyn Liner Kongs	Mask frame Passes kalifas Corikasi Tabihasi Corikasi Tabi	ny ipina fana Tayana Tayani Circus Cuma fadi
HIS FEEDERS ADDER						Address         Address <t< td=""><td>Brain AAAAAAA 0.002-00 0.002-00 0.00 Brain AAAAAAA 0.002-00 0.002-00 0.00</td><td>Admark         14.3         4.44.44.44           00         Byte         14.0         4.44.44.44           00         Byte         14.0         4.44.44.44           00         Byte         14.0         4.44.44.44           00         Galikate         14.0         4.44.44.44           00         Galikate         14.0         4.44.44.44           00         Million         14.0         4.44.44.44           00         Million         14.0         4.44.44.44           00         Million         14.0         4.44.44.44           00         Million         14.0         4.44.44.44</td><td></td><td></td><td></td><td></td></t<>	Brain AAAAAAA 0.002-00 0.002-00 0.00 Brain AAAAAAA 0.002-00 0.002-00 0.00	Admark         14.3         4.44.44.44           00         Byte         14.0         4.44.44.44           00         Byte         14.0         4.44.44.44           00         Byte         14.0         4.44.44.44           00         Galikate         14.0         4.44.44.44           00         Galikate         14.0         4.44.44.44           00         Million         14.0         4.44.44.44           00         Million         14.0         4.44.44.44           00         Million         14.0         4.44.44.44           00         Million         14.0         4.44.44.44				
14.5 <b>222223</b> 22222						1.00 IC 0 0000000 1.00	Culture ANNAN 0.001-00 0.001-00 0.00	00 Cullinger 193 8888888 00 103 Not 197 8888888				
111 <b>22222</b>			****** ****** ******* ******* ****** ******	111111 FFFFFFF ANDERS 111111 FFFFFFF			Small have Addadada 0.002-00 0.002-00 0.00 Nonesh W Addadad 0.002-00 0.002-00 0.00	00 Xaad kevela 417 2222224 00 Broand Rat 100 222224				
114 0000000 00000	ana analas araana alaaraa analas araana alaaraa ahaaraa ahaanaa a		******	******	*****	1.00 220 22244444 1.00	TLI Wall Addedid 0.002-00 1.002-00 0.00 Brart Wall Addedid 0.002-00 1.002-00 0.00	00 VEFNet 210 ddddddd 00 Beat Ped 214 dddddd				
							Lang Addddd 0.002-00 L002-00 0.00	Mill Part         Jo           00         Kaley         Jo           00         Kaley         Hittig				
2000 222222 2222	*** ******* ******* ******* ******* ****				******	2000 ####### 1.00	Nach ANANA 0.002-00 1.002-00 0.00 Oranica ANANANA 0.002-00 1.002-00 0.00	00 Nank 2000 8111114				
1122 2222222 22222						1.10 54.5 ######## 1.49	Pateron Adddadd 0.002-00 6.002-00 0.00 Rod Marry Adddadd 0.002-00 6.002-00 0.00	00 Passes 94,5 2222224 00 Red Names 1120 2222222				
110 <b>222211</b> 22222	999 2222222 2922222 2222222 2222222 222222	1999999 2000000 2000000 2000000 2000000 2000000	****** ******* ******* ******* ******* ****	*****		122 ####### 1.00 144 X42 ####### 1.00	Outcografie         ########         0.002:30         0.002:00         0.00           Non         ########         0.002:30         0.002:00         0.00	00 Orengani C. 130 88884888 00 Sinn Nets 8888488				
10 222222 22222	*** ******* ******* ******* ******* ****		*****	**************************************		AAA         300         24244440         1.80           AAA         200         24244440         1.80           AAA         2000         24244440         1.80           AAA         2000         24244440         1.80           AAA         2000         24244440         1.80           AAA         2000         2424440         1.80           AAA         400         41         2424440         1.80           AAA         300         1.00         2424440         1.80           AAA         300         300         1.00         2424440         1.80           AAA         300         300         2424440         1.80         300           AAAA         300         300         2424440         1.80         300           AAAAA	Sphere         Addababa         0.002-00         0.002-00         0.002           Tunion         Addababa         0.002-00         0.002-00         0.002	00 San pero 4444444 00 Spins (10) 4444444 00 Tain (14) 4444444 00 Tain (14) 4444444				
11.7 4444444 44444						26.7 ######## 1.00	Thyraid 22222222 0.002>00 1.002>00 0.00	00 Beauti 10 Beaution 00 Beauti 107 Beaution 00 Videoy Beaution 174 Beaution				
10 222222 22222 1116 222222 2222						444 et a 244444 1.00 444 77 2444444 1.00 444 7374 2444444 1.00	Here of Matterial Sources         Approx	00 Views 10 888848444 00 Views 10 88844444 00 Viewsbudy 19708 88844444				
Advands Brain	Broads GB Cost LLI Cost B Cost BoarCost LLI Cost Branchos B Broads	let Wall Kidneys Liver Lange Masis O hat Wall Kidneys Liver Lange Masis O	varias Paurus Rei Mar. Cortilanti Trabilanti i varias Dataras Rei Marce	ardinar Y Trabilinar Y Spinon Trains Thymna Briann Trains Thymna	Devid UB Cost Dorm Taillinly Road	aker BETARCET Abaliese Mexiketie	Unit M         Marcel M         <	BECTRON Advants	ikala ikuan GilCua IIICua IICua ikucu	ar EldCoar BaarCon BerRal Kilogo Liver Longo	Mode Orariss Passaus BalMas Corikout Tabihaut Corikout Tabih	uV špim foto Tryun Denili CDCost Chan fotb
Nume         Nume         Nume           1.1.2.2.2         Addet           1.1.2.2.2         Addet           1.1.2.2.2         Addet           1.1.2.2.2.2         Addet           1.1.2.2.2.2         Addet           1.1.2.2.2.2.2         Addet           1.1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2					1999999 202000 2020999 6.392.07 6.552 1999999 202000 2020999 5.392.07 2020	Max(g)         ally           d?         3.1         3.44E-03         1.49           MA         1420         44444444         1.49           d?         3.1         3.46E-03         1.49           d?         3.0         3.46E-03         1.49	Advants 3.442.43 0.002-00 9.002.00 3.10 Brain Adddddd 1.592-00 7.552-01 2.96	05 Advanta 14.5 2.352.03 05 Brok 14.5 2.352.03 06 Brok 14.5 31 222220				111 2222222 ANALY22 222314 222222 ANALY22 222314 1222
111 <b>22222</b>	444 3.352.42 2433333 AAAAAAA 2433333 AAAAAA 243333 AAAAAA 243333	1999999 AAAAAAA AAAAAAA AAAAAAA AAAAAAA A	****** ****** ******* ******* ****** ******	111111 FFFFFFF ANDERS 111111 FFFFFFF	AAAAAAA AAAAAA AAAAAA 5.292.47 5.652 AAAaaaa aaaaaa aaaaaa 6.292.47 5.652	47 31 3.46E-03 1.00 47 10.1 3.46E-03 1.00	Broam 3.44E-03 5.100-00 1.750-04 4.15 CalMadda 3.44E-03 0.000-00 0.000-00 5.10	06 Brands 301 88888888 05 Cullinger 193 8888888				
411 <b>#######</b> ######	and and a second (1923) a second posses and a second		******	******	AAAAAAA AAAAAA AAAAAA SIYA AA SIYA AA	m         2.535.630         1.49           d7         ms         5.445.633         1.48           d7         b5         5.445.633         1.48           d7         b7         5.445.633         1.48           d7         b7         5.445.633         1.48           d7         ms         5.445.63         1.48           d8         ms         5.445.63         1.48	LLI Wall 1.44E-03 2.01E-04 4.15E-04 4.15 Small Intel 3.44E-03 0.00E-08 9.00E-06 3.11	00 00 Nat 517 BARRAR 00 Nationsis 617 BARRAR				
						47 220 3,44E-03 1.84 49 316 4448444 1.84	ULI Wall 1.44E-83 0.002-00 9.40E-66 0.00	Of         Descent Wat         DB         DESCRIPTION           OD         VER Wat         330         DESCRIPTION           OI         Mass Field         310         DESCRIPTION				
			****** ******* ******* ******* ******* ******	******* ******* ******* ******** ******	AAAAAAA ######## 5.292.47 5.652 AAAAAAA ####### 5.292.47 2.122	47 279 3.45E-03 1.88 22 200 8888888 1.88	X38ays 3.46E-03 0.00E-08 9.00E-06 3.10 Liver Adddddd 1.00E-08 9.10E-01 7.20	00 Xilings 200 88888888 01 Kitur 2000 88888888				
2010 22224 22224	***	1999999 2000000 2000000 3,012,02 2000000 2 1999999 2000000 2000000 2000000 3,012,02 2		111112 FFFFFFF 111777 1111112 FFFFFFF	AAAAAAA AAAAAA AAAAAAA 5.388.47 1.058 AAAAAAA AAAAAA AAAAAAA 5.388.47 5.558	22         33         BARADAN 1.83           22         100         BARADAN 1.83           22         100         BARADAN 1.83           22         200         BARADAN 1.83           23         200         BARADAN 1.83           24         200         BARADAN 1.83           27         200         BARADAN 1.83           28         200         BARADAN 1.83           29         45         BARADAN 1.83           27         45         BARADAN 1.83           26         100         257.63         1.64           27         100         257.63         1.84	Long 4444444 1.332-00 1.532-00 1.33 Nach 3.44E-03 0.002-00 9.002-00 3.13	Killey         JP         KALLAN           01         Knor         9140         KALLAN           00         Knop         9140         KALLAN           01         Knop         9140         KALLAN           02         Name         2000         KALLAN           03         Oracle         K1         KALLAN           04         Oracle         K1         KALLAN           05         Oracle         K1         KALLAN           06         Oracle         K1         KALLAN           07         Name         1000         KLANAN           08         Oracle         K1         KLANAN	******* ******* ******* ******* *******			<u>111 2222222 ANALYZZ ZZENANA ZZEZZZA ANALYZZ ZZENANA 5.2</u> 111 2222222 ANALYZZ ZZENANA ZZEZZZZ ANALYZZ ZZENANA 5.2
171 222222 2222 143 222222 2222	*** ******* ******* ******* ******* ****	1999999 2000000 9999999 2000000 2000000 2000000 2000000 2000000	312.42 <i>*******</i> ******* ******* ******* ******* 1.852.42 ******* ******* ******	**************************************	AAAAAAA AAAAAA AAAAAA E.292.47 S.452 AAAaaaa aaaaaa aaaaaa S.292.47 S.452	47 8.3 3.46E43 1.44 47 943 3.46E43 1.44	Ovarias 3.46E-03 X.66E-04 5.11E-04 2.75 Pateron 3.46E-03 0.00E-08 9.60E-06 3.11	06 Orada 8.71 888.888.8 05 Peteres 94.8 888.848.8			aas aaasee 4.71207 seessa aaasee seasaa seessa aaasee saa aas aaasee saaaaa 4.71274 seessa aaasee saaase saaase	
1120 0000000 00000		******	****** ****** 1.982-01 ******* 9.972-06 ****** ****** 9.572-06 1.492-05 1.742-05 1	ATE OS 1.97E-OS ANARARA ANARARA PARANAN	AAAAAAA AAAAAA AAAAAA C.672.67 7.142	47 112(2,35E-43 1.44 47 122(4,37E-43) 1.44	Bod Marry 2.34E-43 2.54E-04 2.54E-04 2.55 Ostospoli 4.37E-43 1.51E-04 4.77E-42 4.27	00 Red Marore 1139 88888888 00 Oriegnii Ci 139 8888888			AND ADDRESS ANDALAS PARAMAN   482-05 BANADAS 9.072-05 ADDRESS 7.21 AND ADDRESS ANDALAS PARAMAN 9.572-06 1.402-05 1.742-05 0.472-06 1.071	
10 222222 2222						47 10 3.46E43 1.44	Spices 3.442-43 0.002-00 9.602-00 0.002-000 0.002-000 0.002-000 0.002-000 0.002-000 0.002-000 0.002-00000000 0.002-0000000000	C Note 111 BARADAN				
						Int         L/2 (30)         L/8           47         300         L/441.03         L.44           47         100         S.4451.03         L.44           47         100         S.4451.03         L.44           47         201         S.4451.03         L.44	Thymas 3.44E-83 0.002-00 9.40E-06 3.11 Thymas 3.44E-83 1.002-00 9.40E-06 3.11	Name         Na         N				
10 000000 00000						47 79 2.45E.03 1.00	Totasy 80 5.845-42 5.200-40 4.400.45 5.55 Term 3.4452-43 2.070-40 9.000.46 5.10	CO Colump Hads 47.8 SECLEC.S CO Change To SECLEC.S				
17110 6.24E-07 6.24E-	at Lakat Late 1 Lakat Late 1 Lakat Lakat Lakat Lakat	134E47 6.38E47 6.38E47 6.34E47 6.38E47 6.	288.47 6.388.47 6.288.47 6.288.47 6.388.47	288.47 6.288.47 6.288.47 6.288.47 6.288.47	6.28E.47 6.05E.48 6.28E.47 3.89E.42 6.29E	47 1778 4.39E43 1.44	Tetal Body 43482-83 0.002-00 1.002-00 1.11	00 Yandibady 19100 \$338.07	5.2XE-07 5.24E-07 4.97E-08 3.0XE-07 4.22E-07 1.40E	07 2.59E.07 1.84E.07 5.28E.07 5.28E.07 5.28E.07 5.28E	147 5.245.07	LOT & 24E-07 & 24E-07 & 24E-07 & 24E-07 & 24E-07 & 24E-07 & 2
Margo Advanta Basia 16.5 1.63E-03 1.13E-	Byoarts         GB Coart         L11 Coart         HI Coart         NumCoart         L11 Coart         House Coart           484         6.402.47         2.462.45         2.662.47         2.462.45         2.4	hat Well Kolkeys Liver Longs Marks O LATE-46 5.22E-66 3.01E-66 1.74E-46 8.54E-67 2.	arian Panzan Rad Marcon APE-07 2.11E-06 1.00E-06 0.20E-07 0.70E-07 1	Token Teles Hypera 708.07 8.738.07 3.148.44 3.198.08 4.998.07	Thread Change Total Dady 8.92E-89 1.19E-07 2.21E-07 9.46E-07 9.16E	Man(g) adv (47 )6.3 (6.4) (.44	adv adv adv adv adv	Marang) 05 Admark Hild 2.53E.04	1.128.00 4.608.07 2.068.06 2.068.07 5.708.07 2.068	06 6.48E.07 1.74E.06 2.05E.06 5.22E.06 3.01E.06 1.748	105 8.548.07 2.696.07 7.118.06 1.998.06 8.706.07 8.708.07 8.788.07 8.788.07	107 3.16E06 3.19E08 4.90E07 8.92E08 1.19E07 2.21E07 9.6
1429 1.13E-04 2.44E- 301 4.69E-07 3.99E-	4111 991 981 781 991 9411 141 781 991 441 412 111 981 99 481 141 141 141 141 141 141 141 141 141	1782-08 4.848-09 1.748-08 0.788-08 1.008-07 0. 1862-06 2.078-07 5.852-07 1.748-06 3.648-07 4.	14E-101.34E-84 4.94E-87 9.94E-87 9.94E-87 47E-98 5.23E-87 4.91E-87 5.81E-87 5.81E-87	01E-07 9.94E-07 1.91E-04 1.64E-10 1.01E-07 01E-07 3.01E-07 4.11E-07 0000000 2.21E-05	118-96 4 A38-10 8 358-10 6 488-07 3.018 2.868-07 2.238-08 5.258-08 5.768-07 5.588	47 1420 4444444 144 47 112 5,05E,43 1,44	Rean 5.052-03 1.00-01 2.552-04 0.00 Rean 5.052-03 1.502-04 2.552-04 0.00	Advanta         11.3         2.338.05           62         Back         5439         1.138.08           69         Back         343         4.052.07           60         Galadate         343         4.052.07           61         Galadate         343         2.088.07           62         Back         343         2.088.07	1.992.05 3.946.64 4.766.09 9.018.10 1.748.69 1.048 3.992.08 3.648.65 3.018.07 4.308.68 9.558.68 4.928	081211320914516484478848844849117684891778848	081 1980-0719 185-16 3 398-08 A 988-0719 488-0719 5988-0719 5981-0	477 1 11248 1 445 16 1 01547 1 11544 4 415 10 8 335 10 6 4 47 4 11247 444444 2 21546 2 85247 2 21548 5 25548 5 7
617 2.21E-05 E.00E 167 2.06E-07 7.54E	121 4 30E 08 30F 27 27 28 4 7 2 30E 08 2 30E 08 2 30E 08 4 4 5 5 5 5 5 6 7 5 5 5 5 5 5 5 5 5 5 5 5 5	1400-07 1400-09 1300-09 1300-07 1.700-07 7. 1400-09 4.300-07 1.400-07 4.010-09 9.640-07 8. 1400-07 1.500-08 9.500-07 1.400-07 9.	22E-06 3.32E-07 1.49E-06 5.85E-07 5.48E-07 17E-06 1.32E-07 1.49E-06 5.85E-07 5.85E-07 17E-06 1.81E-06 1.31E-06 4.22E-07	35E-07 5-35E-07 E-71E-07 5-77E-08 2-38E-07 85E-07 5-85E-07 1-48E-07 1-46E-06 1-01E-06 77E-07 4-77E-07 7-59E-07 7-54E-06	5.59E.09 2.77E.07 E.01E.07 1.04E.06 9.42E 6.59E.09 2.79E.06 3.14E.06 1.01E.06 1.07E 1.68E.09 1.64E.06 5.7E.05 1.04P.00 1.00P	44 157 1.42E-42 1.44 44 157 1.42E-42 1.44	Lambdd 5.332-83 0.002-98 0.002	00 Calification 9 113 2.21E06 05 843 Not 947 3.06E07 05 Southerate 977 5.70E407				
110 1.74E-06 9.17E- 220 6.81E-07 1.11E	49 5 231 47 1 991 45 9 341 47 1 521 46 2 941 41 2 962 46 1 61 47	24E46 1.74E46 1.11E46 1.21E47 1.47E47 1.	27E-07 8.69E-06 6.33E-07 3.16E-07 3.16E-07 34E-06 1.09E-06 1.11E-06 3.0E-07 3.16E-07	16E-07 3.16E-07 5.86E-04 6.51E-08 3.45E-07 80E-07 3.86E-07 6.97E-07 1.90E-07 0.45E-07		47 111 7,53E,43 1,49 46 220 8,14E,43 1,49	Numb W 253E43 0.002-00 2.57E45 1.0 Numb W 253E43 0.002-00 2.04E46 1.0 NLI Null K14E43 0.002-00 2.54E46 0.00	05 Starf Interim 411 5.760.07 06 Research Parl 108 1.740.06 00 StarParl 108 5.810.07				
NS 2.85E-85 4.78E- 299 5.22E-85 4.84E-	48 2.017.01 2.01.01 2.01.01 2.01.01 1.01.01 1.01.01 2.01.01 2.01.01 1.01 1	1712-03 5.848-07 1.588-06 3.848-06 4.888-07 4. 368-07 1.778-03 2.068-06 5.848-07 7.448-07 5.			1.648:67 3.038:68 6.748:68 9.338:67 7.658 5.878:69 2.228:67 5.238:67 9.628:67 9.988	diff         Introduction         Late           introduction         abox         bitto         bitto           diff         bitto         abox         bitto           diff         bitto         bitto         bitto           diff         bitto         bitto <td>Unit billion         Line of the second second</td> <td>00 VATPent 310 6.5115.07 05 Heart Pent 310 2.0152.05 05 Killerys 210 5.2225.05</td> <td></td> <td></td> <td>06 6.88107 9.21508 2.37506 8.38507 4.48507 8.58507 4.58507 4.486 07 7.44507 5.75507 3.68506 1.34506 5.66507 5.06507 5.06507</td> <td></td>	Unit billion         Line of the second	00 VATPent 310 6.5115.07 05 Heart Pent 310 2.0152.05 05 Killerys 210 5.2225.05			06 6.88107 9.21508 2.37506 8.38507 4.48507 8.58507 4.58507 4.486 07 7.44507 5.75507 3.68506 1.34506 5.66507 5.06507 5.06507	
100 3.01E-06 1.76E- 100 1.74E-06 9.79E-	48 5.858.07 5.838.08 1.748.07 9.388.07 1.048.08 1.388.06 1.488.06 1 48 1.748.06 6.918.07 5.348.08 1.408.07 7.928.07 1.748.07 1.148.06 1	.88E.86 2.86E.86 2.12E.83 1.38E.86 6.78E.87 5. 188E.86 6.88E.87 1.38E.86 6.23E.84 6.88E.87 7.	17E-07 2.53E-06 6.94E-07 3.95E-07 3.96E-07 3 42E-08 1.33E-06 6.85E-07 5.53E-07 5.53E-07	988.47 3.988.47 8.848.47 3.208.48 4.688.47 338.47 5.538.47 1.348.46 1.038.48 2.858.45	8.478.48 1.388.47 2.788.47 8.428.47 6.648 6.648.47 1.978.48 5.888.48 7.798.47 6.548	47 200 9.94E-01 1.00 47 200 7.49E-01 1.00	Liver 0.84E-01 1.97E-02 4.98E-02 3.98 Long 2.44E-01 2.00E-02 2.00E-02 2.00	05 Kalanya 200 5.222505 02 Kanar 0444 1.012505 02 Kanga mese 1.742506	1.76E48 5.85E47 5.53E46 1.75E47 8.38E47 1.04E 9.70E48 1.74E48 4.91E47 6.36E48 1.44647 7.92E	06 1.35E86 1.45E86 1.58E85 2.86E86 1.38E85 1.38 07 1.74E87 3.14E86 3.00E86 8.88E87 1.38E86 8.228	(d) (Alber) 2. (Stor) 2.048(d) 1.248(d) 2.088(d) (2004)	107 5.545.07 3.245.08 4.605.07 9.675.04 1.355.07 2.705.07 9.0 107 1.145.04 1.035.08 2.045.06 6.655.07 1.925.08 4.3355.08 7.7
2000 8.54E-07 1.54E- 8.71 2.69E-07 9.16E-	47 2 648 67 8 388 67 8 868 67 8 678 67 7 248 67 7 758 67 6 338 67 6 38 6 678 68 7 758 67 3 818 66 6 178 66 6 386 67 5 228 66 7 818 68 9	1992-97 7.442-97 5.792-97 6.892-97 7.592-94 1. 1212-99 6.792-97 3.1726-97 7.4226-99 1.0426-96 1.	8416-85 9.4216-47 7.1216-47 6.4116-47 6.4116-47 8416-43 9.3716-47 1.8316-46 4.9416-47 4.9416-47	01E-07 6.01E-07 7.75E-07 7.91E-07 8.07E-07 90E-07 6.91E-07 2.47E-07 8888888 3.47E-00	6.768.47 9.498.47 1.838.46 7.448.47 7.788 7.878.49 3.478.46 9.958.46 1.868.46 1.118	AT         DOM 5,241,411         L 48           47         DOM 5,522,431         L 44           46         K.71         L 302,632         L 34           46         K.71         L 302,632         L 34           46         K.71         L 302,632         L 34           47         IL12         Z-244,633         L 44           47         X16         L 444,633         L 44           47         X16         L 444,743         L 44           47         X16         L 444,743         L 44	Nach 6.52E-03 0.002-00 1.312-02 0.02 Ovarias 1.83E-02 1.172-02 2.02E-03 8.22	100         fange         mmil         1 7484.05           00         Numb         18000         8 4464.07           00         Ocada         8.11         2.4456.07           00         Passas         8.13         2.4456.07           00         Passas         8.13         5.116.05           00         Ref Merror         110         5.001.05	1.902-07 3.642-07 8.382-07 8.852-07 8.072-07 7.282 9.162-10 4.472-68 7.752-07 9.012-66 6.172-66 4.902	07 7.35547 6.33507 6.80507 7.44547 5.76507 6.80 07 5.22546 7.81548 9.21548 5.35547 3.17547 7.628	07 8.23107 1.54046 9.02207 7.12107 6.01807 6.01807 6.01807 6.01807 0.0	407 7.75547 7.81547 8.07507 8.78547 9.48547 1.03546 7.60 107 2.09547 Аллалаа 3.67508 7.87549 3.47546 9.05566 1.00
54.5 7.11E-06 1.39E	4919-201-0716-716-8634-862-0716-0818-2216-8636-1216-8636-741-082 4474-69116-0717-0716-0716-3814-13116-06-6-3216-0716-1216-86-8811-0716 4491-449116-0717-0716-0716-971-9716-9716-9716-9716-9716-9716-97	1712-04 1348-04 2338-06 1318-04 9,028-07 1, 1838-07 1348-04 6,068-07 8,838-07 7,128-07 1,	178-07 1.878-01 1.168-04 4.228-07 4.228-07 538-06 1.138-04 3.038-04 1.588-06 1.588-06	228-07 (5.228-07) 9.148-04 (4.428-08) 4.428-07 588-04 (1.588-04) 7.388-07 (1.698-07) 6.458-07	6.796.48 1.496.47 1.176.47 1.446.46 1.426 6.176.47 6.176.47 1.466.46 8.446.47 8.616	44 94.5 (8.85E.43 1.44 47 10.0 7,59E.43 1.44	Pateron 6.852-03 0.002-00 2.452-05 6.17 Bod Marro 7.3422-03 6.762-04 6.792-04 6.79	05 Peases 943 2.118.06 06 Rel Marce 1139 1.902.06		0011128.0011746.6623378.0633.448.6424318.661233 071128.0488888.0788888.071348.6464548888.078883	005 9 02507 1 3 11607 9 01805 1 4606 3 22607 1 22607 8 23107 1 22607 4 220 1 200 1 2	
128 L46E-06 L24E- 3018 3.17E-07 3.84E-		333.075.075.175.0714.745.0716.645.0777.285.075 1.175.0713.665.0731.175.0733.465.0736.065.073	#38.4775.34E471.90E462.21E462.21E46 20E4722.74E473.04E474.25E474.55E47	218-99 2.21E-96 4.75E-97 4.11E-97 4.75E-97 76E-97 4.75E-97 3.31E-97 8.79E-97 4.12E-97 94E-97 3.94E-97 3.31E-97 8.79E-97	1.896.4712.64E.4714.42E.4719.17E.4719.31E 1.846.4713.33E.4712.74E.4714.44E.4714.18E	d7         120         7.59E-03         1.89           d7         X04         6.14E-03         1.89           d7         105         6.83E-03         1.89	Ostrogent 7.59E-43 1.28E-04 7.59E-43 1.39 Sale 4.14E-43 0.00E-08 4.14E-44 4.14 Sales 4.84E-43 0.00E-08	05 OrieganicCi 110 1.002006 05 Gain 2010 3.1726.07 05 Spine 110 3.162.06				
201 0.101-00 1.64E- 201 0.011-01 1.64E-	14 Annual 2 (21 A) 148 45 (21 A) 171 48 (4 A) 171 (7)	39E-49 5.44E-49 3.29E-49 1.43E-49 7.91E-47 4 39E-49 5.44E-49 3.29E-49 1.43E-49 7.91E-47 4 39E-49 1.94E-47 4.64E-47 2.45E-45 4.47E-47 4		48E-07 3.48E-07 3.59E-09 2.19E-03 6.76E-09 94E-07 3.56E-07 2.71E-07 6.76E-09 1.55E-09		47 1004,33E,43 1,44 47 26 7,32E,43 1,44 47 26 7,32E,43 1,44 47 26 7,32E,43 1,44 47 26 7,32E,43 1,44	Total 7.32E-03 0.002-00 1.002-00 0.00 Total 7.32E-03 0.002-00 0.002-00 0.00 Thread 7.82E-03 0.002-00 1.702-00 0.00	00 Tatis 24.2 1000.000 01 Tatis 24.2 1000.000 02 Tatis 24.2 1000.000				
20.7 8.92E-04 1.11E- 17.6 1.03E-07 4.63E-						47 35.7 6.38E.43 1.44 47 4.5 6.28E.42 1.44	Thereid 4.382.43 1.812.04 5.102.04 2.5 Trianey IN 4.282.42 2.572.00 2.142.43 1.77	00         Tatin         34         3.185.05           01         Tayman         344         4.505.07           06         Taymit         347         4.505.02           05         Taymit         347         4.505.02           05         Taisay Bub         47.8         1.035.02				
79 2.21E-07 8.35E- 11780 9.65E-07 6.48E-	-18 5.257.08 8.547.07 3.477.06 5.277.06 3.977.07 2.577.06 7.487.08 6 .47 5.707.07 9.176.07 9.817.87 9.178.07 7.846.07 8.846.87 7.267.07		95E-86 3.37E-87 1.86E-86 3.79E-87 3.79E-87 3 86E-86 1.84E-86 8.39E-87 7.89E-87 7.89E-87	798.47 3.798.47 2.548.47 4444444 3.518.48 898.47 7.898.47 8.838.47 7.408.47 8.338.47	7.396.49 8.216.46 2.246.43 1.886.46 1.126 8.236.47 8.076.07 1.886.46 1.346.43 7.876	46 77 1.47E-02 1.49 47 717m 6.89E-03 1.49	Term 1.47E-02 X.82E-04 4.08E-05 1.55 Term Redy 6.89E-03 0.00E-08 1.00E-06 1.55	06 Einen 19 2.21E-07 06 Einstaut	8.35E-00 5.25E-00 8.54E-07 3.47E-06 5.37E-06 3.97E 6.48E-07 5.36E-07 8.17E-07 9.01E-07 9.17E-07 7.56E	07 2.532.06 7.482.08 8.742.08 5.232.07 2.702.07 5.882 07 8.86520 7.385.07 9.332.07 9.022.07 9.022.07 7.759	08 1.038.06 9.958.06 3.178.07 1.048.06 3.798.07 3.798.07 3.798.07 1.088.05 3.798.078.0788.0788.0788.0788.0788.0788.0	107 2.54287 8444444 3.51208 7.39269 8.21266 1.22264 1.00 107 9.022897 7.48867 8.232607 8.23269 8.23267 1.08866 7.40

# **Comparison of Dosimetry**

Radiopharmaceutical	ICRP 128 (mSv/MBq)		RADAR /MBq)		CRP 133 /MBq)						
	Adult	Adult	Female	AM	AF						
Tc-99m HDP	4.96x10 <sup>-3</sup>	5.42x10 <sup>-3</sup>	7.23x10 <sup>-3</sup>	3.65x10 <sup>-3</sup>	5.71x10 <sup>-3</sup>						
F-18 FDG	1.90x10 <sup>-2</sup>	1.86x10 <sup>-2</sup>	2.42x10 <sup>-2</sup>	1.59x10 <sup>-2</sup>	2.11x10 <sup>-2</sup>						
I-131 lodide	2.20x10 <sup>+1</sup>	2.17x10 <sup>+1</sup>	2.63x10 <sup>+1</sup>	1.87x10 <sup>+1</sup>	2.24x10 <sup>+1</sup>						
Table 1. Effective dosesfactors from ICRP 60.	Table 1. Effective doses calculated for 5 different phantoms using tissue weighting         factors from ICRP 60.										

#### Discussion

A platform has been developed to support comparison of internal dosimetry results from different sources

- Designed to support end-user validation
- Could be used as part of a validation chain for qualifying commercial software

### Conclusion

For a small sample of radiopharmaceuticals, RADAR and ICRP 133 phantoms produce similar estimates of Effective Dose